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The annotated bibliography, including 310 abstracts, pertains to research and theory on individual behavior, group behavior, and educational and training philosophy. This is the first of four publications on training methodology; its content was selected from over 6,000 items mostly published from January 1960 to March 1968. Areas included are: human factors engineering, human behavior and behavioral change, perception, motivation, communication, the adult learner, learning theory and research, programed learning theory and research, and group dynamics, process and structure. A subject index is included. (pt)

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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training METHODOLOGY

PART I: BACKGROUND THEORY AND RESEARCH

An Annotated Bibliography

AC 004 568

This annotated bibliography is the first of four indicating current thought on training methodology. Content for the four publications was selected from over 6,000 items. Most were published from January 1960 to March 1968. A few earlier items are also included because of their significance. Some useful material had to be omitted because of budgetary limitations related both to search and final printing; the sheer scope of the field precluded complete coverage of the literature. Certain annotations were borrowed from other publications (details are explained on the Credits page).

In the expectation that these bibliographies will be ongoing, the project administrators (listed in the Introduction) welcome comments and suggestions with respect to additions, deletions, classification system, indexing, and technical or typographical errors.

ERRATA SHEET

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Part I: Background Theory and Research

p. 5	Reference #24:	second author: KURTZ, not KRUTZ
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p.20	Reference #83:	author: GENEVIEVE B. OXLEY, not GENEVIEVE G. OXLEY
p.26	Reference #111:	in title: change message to massage
p.38	Reference #147:	in periodical title: change English to engineering
p.39	Reference #153:	948 pp.
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p.49	Reference #193:	Review of educational research, not resources
p.49	Reference #194:	173 pp.
p.51	Reference #196:	pp. 1-4, not pp. 1-3
p.51	Reference #199:	22 pp.
p.55	Reference #216:	pp. 370-373, not 367-370
p.56	Reference #220:	periodical title: Journal of abnormal and social psychology
p.58	Reference #231:	pp. 2-14, not 2-13
p.62	Reference #246:	second author: SILLS, not STILLS
p.64	Reference #254:	author: KELLEY, not KELLY
p.73	Reference #292:	1247 pp., not 127 pp.

TRAINING METHODOLOGY

Part I: Background Theory and Research

An Annotated Bibliography

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
PUBLIC HEALTH SERVICE
HEALTH SERVICES AND MENTAL HEALTH ADMINISTRATION

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INTRODUCTION

This bibliography pertains to research and theory on individual behavior, group behavior, and educational and training philosophy. It is the first of a group of four on training methodology. References in all four are arranged in classified order, annotated, and indexed. Additional information about concepts emphasized in this publication may be located by references to indexes of other publications in the group. (In some references coverage of a particular concept was secondary or even peripheral to the major topic, but its inclusion was noted in the indexing to emphasize relationships.)

Other titles in the group are:

Training Methodology–Part II: Planning and Administration

Training Methodology–Part III: Instructional Methods and Techniques

Training Methodology–Part IV: Audiovisual Theory, Aids, and Equipment

In a related group of classified, annotated, and indexed bibliographies on mental health inservice training, training concepts are highlighted in annotations and indexing. The group consists of three publications:

Annotated Bibliography on Inservice Training for Key Professionals in Community Mental Health

Annotated Bibliography on Inservice Training for Allied Professionals in Community Mental Health

Annotated Bibliography on Inservice Training in Mental Health for Staff in Residential Institutions

These seven publications were developed as a joint effort of the National Institute of Mental Health and the National Communicable Disease Center of the Health Services and Mental Health Administration, Public Health Service, U.S. Department of Health, Education, and Welfare. The project was administered by the National Institute of Mental Health's Community Mental Health Centers Staffing Branch of the Division of Mental Health Service Programs; the Continuing Education Branch of its Division of Manpower and Training; and the Training Methods Development Section of the National Communicable Disease Center's Training Program.

ACKNOWLEDGMENTS

Due to the nature of this series of publications, the amount of coordination and cooperation required for its development, and the range of skills employed in getting it published, the following persons should be recognized: Miss Patricia Rogers, Technical Information Specialist (Education), Training Methods Development Section, Training Program, National Communicable Disease Center–compiler and project supervisor; Dr. Ross Grumet, Psychiatrist, Region IV Mental Health Service–technical reviewer; Mr. Alfred R. Kinney, Jr., Chief, Training Methods Development Section, Training Program, National Communicable Disease Center–advisor; Mrs. Anne W. Morgan, Health Educator, Region IV Office of Comprehensive Health Planning–technical reviewer; Dr. Robert D. Quinn, Staff Psychologist, Community Mental Health Centers Staffing Branch, Division of Mental Health Service Programs, National Institute of Mental Health–NIMH coordinator; Dr. Dorothy Schroeder, Professor of Social Work, University of Michigan–consultant; Mrs. Betty S. Segal, Evaluation Specialist, Training Methods Development Section, Training Program, National Communicable Disease Center–technical reviewer; Miss Marguerite Termini, Associate Professor of Psychiatric Nursing, University of Delaware–consultant; Dr. Thomas G. Webster, Chief, Continuing Education Branch, Division of Manpower and Training, National Institute of Mental Health–advisor. Original annotations and abstracts were written by seven graduate students and technical assistants employed especially for the project. These individuals were: Miss Connie Benson, Miss Mary Lavinia Campbell, Miss Rosemary Franklin, Miss Sharon Grilz, Miss Gale Lawrence, Mr. Garrett McAinsh, and Mr. Stephen Von Allmen.

CREDITS

Permission to reprint abstracts and annotations from the following sources is gratefully acknowledged:

(ASTD):	"Training Research Abstracts," edited by Gerald H. Whitlock. IN **Training and Development Journal**, published by the American Society for Training and Development, January 1966 to date. Separately published by the Society before January 1966.
(ASW):	**Abstracts for Social Workers**. Albany, N. Y.: National Association of Social Workers. Quarterly.
(ERIC):	ERIC Clearinghouse on Adult Education. **Human Relations–Training and Research, No. 1: Current Information Sources**. Syracuse, N. Y.: Syracuse University, January 1968. 17 pp.
(HumRRO):	Smith, Robert G., Jr. **An Annotated Bibliography on the Design of Instructional Systems** (Technical Report 67-5). Alexandria, Va.: The George Washington University, Human Resources Research Office, May 1967. 132 pp.
(USCSC 1):	U. S. Civil Service Commission Library. **Personnel Literature**. Washington, D. C.: The Library. Monthly.
(USCSC 2):	U. S. Civil Service Commission Library. **Planning, Administration, and Evaluation of Executive Development Programs** (Personnel Bibliography Series Number 4). Washington, D. C.: The Library, June 1961. 64 pp.
(USCSC 3):	U. S. Civil Service Commission Library. **Planning, Organizing and Evaluating Training Programs** (Personnel Bibliography Series Number 18). Washington, D. C.: The Library, January 1966. 87 pp.
(USCSC 4):	U. S. Civil Service Commission Library. **Training Methods and Techniques** (Personnel Bibliography Series Number 19). Washington, D. C.: The Library, January 1966. 53 pp.

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HUMAN FACTORS ENGINEERING

CHAPANIS, ALPHONSE. **Man-machine engineering.** Belmont, Calif.: Wadsworth Publishing Company, 1965. 134 pp.

A basic, non-technical introduction to human engineering is presented. The book is intended for the general reader and deals with the development of the field, as well as its current theories and practices. Chapters are: (1) Introduction; (2) Man in Man-Machine Systems; (3) The Visual Presentation of Information; (4) Speech Communication Systems; (5) The Design of Controls; (6) Perspectives and Postscript. References and an index are included. **(1)**

DEESE, JAMES. Skilled performance and conditions of stress. IN Glaser, Robert (ed.). **Training research and education.** Pittsburgh: University of Pittsburgh Press, 1962. pp. 199-222.

Stress refers to a collection or class of stimulus events with common response-producing properties which elicit reports of discomfort or correlates of discomfort. It is necessary to know both the detailed effects of stressful stimuli upon behavior generally and the components of particular skills to be performed under stress to design appropriate training. Factor analysis of tasks is useful in understanding the variable influence of stress upon skilled behavior. **(2)**

DREYFUSS, HENRY. **The measure of man: human factors in design.** New York: Whitney Library of Design, 1959. 16 pp. plus charts.

This miniature encyclopedia presents human factors data in graphic form for the industrial designer. Four of the charts include "anthropometric data" (human measurements) of the adult American male and female; five charts deal with applications. Data is given for reach, sight lines, and placement of common objects for maximum convenience. Another chart contains detailed measurements of the hand. A table of anthropometric data on children from birth to age 17 is also included on a chart. Two charts give detailed measurements of the head and feet. Three charts contain basic data on strength, body clearances, climbing, ingress and egress, control, and display. A chart on thresholds is on the cover of the booklet. These diagrams are intended as points of departure for the solution of specific problems in industrial design; they are valuable especially as a checklist. Explanatory material is offered on manual controls, pedals, visual displays, auditory signals, sensory signals, anthropometric conformity, safety, illumination, environment, and maintenance. A bibliography is included. **(3)**

Environmental abstracts. Ann Arbor, Mich.: The University of Michigan, 1965. 768 pp.

This volume, the first in the School Environment Research Project, establishes the limits of knowledge on how the environment affects human behavior in general and learning in particular. It includes some 600 reference documents, classified as follows: (1) Environment and the Human Senses; (2) Behavior and the Atmospheric Environment; (3) Behavior and the Luminous Environment; (4) Behavior and the Sonic Environment; and (5) Behavior and the Social Environment. **(4)**

Environmental analysis. Ann Arbor, Mich.: The University of Michigan, 1965. 72 pp.

Material is presented in three sections: (1) method of investigation, a suggested way of defining various environmental relationships; (2) processing of information, a suggested way of treating the environmental research data; and (3) environmental design implications, an appraisal of how man's own well-being and further development is related to the control of environment for increasing productivity. **(5)**

Environmental evaluations. Ann Arbor, Mich.: The University of Michigan, 1965. 186 pp.

Drawing heavily on the volume *Environmental Abstracts,* this volume summarizes and appraises the present state of knowledge with respect to various environmental relationships. The contents are: (1) The Interaction of Man and His Environment, by Daniel H. Carson; (2) Architectural Space as a Component of Environment, by Harold W. Hines; (3) The Thermally Related Environment and Its Effects on Man, by Joseph R. Akerman; (4) The Luminous Environment and Its Effects on Man, by Robert A. Boyd; (5) The Sonic Environment and Its Effects on Man, by Norman

Barnett; and (6) The Social Environment and the Learning Situation, by Robert S. Fox. **(6)**

FITTS, PAUL M. Engineering psychology and equipment design. IN Stevens, S. S. (ed.). **Handbook of experimental psychology**. New York: John Wiley & Sons, 1951. pp. 1287-1340.

Psychological data can help solve display problems (how best to present information to the senses), and problems concerning the design of control systems (how best to utilize human motor output). The effectiveness of displays depends upon recognition of principles concerning visual, audio, and tactual perceptions. Psychological data can also be applied to the arrangement of controls for maximum convenience in sequential operations. As a general hypothesis, the probability of an error increases directly with the number of separate stimulus-response operations required. **(7)**

FLEISHMAN, EDWIN A. **Studies in personnel and industrial psychology**. Homewood, Ill.: The Dorsey Press, 1961. 633 pp.

Useful as a reference in industrial psychology, this book can also be used as a primary textbook. Each of the nine key sections has an introduction; the sections combine review and discussion articles within particular areas with articles emphasizing key empirical studies. An attempt has been made to give expanded treatment to the social-motivational aspects without minimizing development in the traditional aspects of the field (such as selection, training, or work methods). Sections are: (1) Personnel Selection, (2) Performance Appraisal, (3) Training Employees and Managers, (4) Motivation, Attitudes, and Morale, (5) Leadership and Supervision, (6) Communication and Organizational Behavior, (7) Fatigue, Monotony, and Working Conditions, (8) Accidents and Safety, and (9) Engineering Psychology. **(8)**

McCORMICK, ERNEST J. **Human factors engineering** (2nd edition of *Human Engineering*). New York: McGraw-Hill, 1964. 653 pp.

This text is intended as a survey of human factors engineering. Materials are drawn from a variety of disciplines that have relevance to the human factors area, including physical anthropology, physiology, and climatology, though the bulk of the material comes from the field of psychology. Much of the content deals with the results and implications of research investigations of some of the practical problems of design of man-machine systems and environments. Chapter titles describe the contents: Part One, The Human Aspects of Man-Machine Systems – (1) Introduction; (2) Man-Machine Systems; (3) The Development and Use of Human Factors Information; Part Two, The Human Organism – (4) Sensory and Motor Processes; Part Three, Human Processes in Man-Machine Systems – (5) Human Information Processes; (6) Information Displays; (7) Speech Communications; (8) Human Motor Activities; (9) Man-Machine Relationships; (10) Controls and Related Devices; Part Four, Space Arrangement – (11) Work Space and Personal Equipment; (12) Arrangement of Elements and Components; Part Five, Environment – (13) Illumination; (14) Noise and Vibration; (15) Atmospheric Conditions; (16) Man in Motion; Part Six, Personnel and System Integration – (17) Human Factors in System Development; (18) Simulation; and (19) Summary. Name and subject indexes are included. **(9)**

MEISTER, DAVID and GERALD F. RABIDEAU. **Human factors evaluation in system development**. New York: John Wiley & Sons, 1965. 307 pp.

Though designed primarily for the practicing human engineer, the book is also intended for readers interested in examining the processes by which complex man-machine systems are developed and evaluated, in how human factors evaluation is performed during system development, and in the limitations and potentialities inherent in the system development situation. Chapter titles describe the contents: (1) Introduction to Human Factors Evaluation; (2) The System and System Development; (3) Analysis and Evaluation; (4) Human Engineering Evaluation of System Products; (5) System Performance Evaluation Parameters; (6) Planning the Performance Evaluation; (7) Data Collection Methods; (8) Data Analysis Methods; (9) Human Factors Evaluation of Production Processes; and (10) Problems and Applications. An index is included. **(10)**

MILLER, ROBERT B. **Psychological considerations in the design of training equipment** (WADC technical report 54-563). Wright-Patterson AFB, Ohio: Air Research and Development Command, Development Center, December 1954. 133 pp. +

This is a general treatment of design considerations for training equipment. Topics covered include (1) some principal concepts in learning and transfer of learning, (2) problems of physical simulation, (3) stage of learning and degree of physical simulation, (4) knowledge of results and scoring, (5) recording procedures, (6) proficiency measurement, (7) the design of the instructor's station, (8) the trainer as a demonstrator of principles, and (9) outline of steps in designing a training device. **(11)**

NATIONAL EDUCATION ASSOCIATION. DEPARTMENT OF AUDIOVISUAL INSTRUCTION. **The design of instructional equipment: two views** (Occasional paper no. 8). By Humboldt W. Leverenz and Malcolm G. Townsley. Washington, D. C.: National Education Association, 1962. 51 pp.

Three problems of designing instructional equipment are recognized: human factors, economic (and organizational) factors, and attitudinal factors. The two essays included herein are papers designed to answer two questions: How has instructional equipment been designed in the past, and how can it be designed in the future? The papers are complementary: Leverenz deals primarily with the design process itself, and Townsley addresses himself more to the problems associated with economics and organization as they affect the design process. A bibliography and some general references are included at the end of each paper. **(12)**

STEVENSON, SANDRA A. and LAVON E. TRYGG. **A bibliography of reports issued by the Behavioral Sciences Laboratory: engineering psychology, training psychology, environmental stress, simulation techniques, and physical anthropology.** Wright-Patterson AFB, Ohio: Behavioral Sciences Laboratory, June 1966. 140 pp.

"The Behavioral Sciences Laboratory, one of two laboratories of the Aerospace Medical Research Laboratories, conducts research and development in the fields of human engineering, training, psychophysiology, physical anthropology, and simulation techniques. The Human Engineering Division executes research and development on human performance capabilities and limitations as they relate to operation and maintenance of aircraft, missile, and manned space vehicle systems. The Training Research Division accomplishes research and technical development in the areas of training techniques, psychological and engineering aspects of training equipment, personnel requirements of new weapon systems, and the effects of environmental stress on human performance. This bibliography lists, by functional groupings, the technical reports, technical notes, contractor reports, memorandum reports, and journal articles prepared by the Behavioral Sciences Laboratory and its contractors from April 1946 through December 1965." *(ASTD)* **(13)**

TUFTS COLLEGE. INSTITUTE OF APPLIED EXPERIMENTAL PSYCHOLOGY. **Handbook of human engineering data.** 2nd edition. Port Washington, N. Y.: Office of Naval Research, Special Devices Center, n.d. (no cumulative pagination).

The handbook attempts to report some of the results of human engineering in a concise and useful form. It is intended primarily for design engineers and is meant to serve as a comprehensive orientation to the field of human engineering. The book is divided into nine parts: Part I has an introduction and discusses the methods used to collect and evaluate the data presented; Part II lists physical dimensions of men and women; Parts III, IV and V are concerned with vision, hearing, and touch and proprioception, the three senses most often dealt with in design problems; Part VI discusses some aspects of the responses made by the individual to the stimulation of these senses; Part VII deals with the various physiological conditions that affect the functioning of the human machine; Part VIII briefly reviews intelligence and aptitude testing; and Part IX contains an overview of learning, including sections on basic concepts, basic processes of learning, characteristics of the individual that influence learning, and training. The basic ideas and problems of the subjects and the pertinent experimental findings are described. A bibliography, a glossary of terms, and author and subject indexes are included. **(14)**

WAGNER, ROBERT. Design in education. **The news letter** (Ohio State University, Bureau of Educational Research) 27:1, October 1961. 4 pp.

The concept of educational design involving human engineering is seen as the link for humanistically relating technology and the educational process. Design defined as thoughtful, artful, organic use and creative control of necessary systems, is seen to be a necessary counterbalance to systems development which, by its nature, tends to dehumanize the educational process. Technology, it is argued, must be balanced with a sense of design, with encouragement of individual creative effort, and with spirit. **(15)**

HUMAN BEHAVIOR AND BEHAVIORAL CHANGE (GENERAL)

BENNETT, THOMAS R., II. **The leader looks at planning for change** (Looking Into Leadership series). Washington, D. C.: Leadership Resources, Inc., 1961. 15 pp.

Five questions often asked regarding the change process are cited in the introduction to this booklet. The general importance and increasing rapidity of required change in human behavior is discussed, and some guidelines for the leader are offered. Types of change, what leaders need to give careful attention to, reasons for resistance to change, some ineffective leader responses to resistance, some values of resistance, specific leader functions in making creative use of opposition, some ways of analyzing forces in a change situation, and three specific methods for change are discussed. Questions which the leader might ask in self-appraisal are offered. A briefly annotated 8-item bibliography is included. **(16)**

BENNIS, WARREN G. **The planning of change: readings in the applied behavioral sciences**. New York: Holt, Rinehart & Winston, 1962. 781 pp.

This book consolidates some current ideas about aspects of the change process and ties them together with critical and theoretical comments. It deals with the systematic and appropriate application of knowledge to human affairs to evoke intelligent action and change. Part One, The Roots of Planned Change, includes chapters on (1) The Basis of Planned Change in the Conditions of Contemporary Change; (2) The Social Sciences and the Planning of Change; (3) Goal and Value Dilemmas in the Planning of Change; and (4) The Concept of Planned Change. Part Two, Conceptual Tools for the Change Agent: Social Systems and Change Models, includes chapters on: (5) Social Systems in Stability, Change and Conflict; (6) The Small Group in Stability and Change; (7) Characteristics of Other Client-Systems; and (8) Some Strategic Leverage Points. Part Three, Dynamics of the Influence Process, includes chapters on: (9) Three Pivotal Functions in Planned Change: Training, Consulting, and Research; and (10) The Small Group in Processes of Planned Change. There are extensive references and an index. **(17)**

BERELSON, BERNARD and GARY A. STEINER. **Human behavior: shorter edition.** New York: Harcourt, Brace & World, 1964. 225 pp.

The behavioral scientist uses the scientific method to develop descriptions and explanations upon which predictions of human behavior can be based. Some generalizations from recent behavioral studies are described. The social, anthropological, and social psychological aspects of man's behavior in social groupings of various sizes is followed by the psychological aspects of individual behavior. Chapter titles are: Culture and Society; Social Institutions; Groups and Organizations; Social Class; Ethnic Relations; Opinion and Communication; Behavioral Development and Learning; Perceiving; Motivation; Personality; and Intelligence. A bibliographical index is included. **(18)**

BROWN, DANIEL G. **A selected bibliography on behavior modification–books, articles, and films.** Atlanta, Ga.: U.S. Public Health Service, Region IV, Mental Health Service, October 1967. 24 pp.

The bibliography is divided into three sections: (I) Books: a relatively comprehensive bibliography of books that are concerned primarily with behavior modification, conditioning approaches in psychotherapy, behavior therapy, reinforcement therapy, and related subjects (several basic references that discuss fundamentals and principles of the learning process with a framework of Respondent [Pavlovian] and Operant Conditioning are included); (II) Articles: a sample of what are considered some of the more significant contributions to the literature that should be of general interest and value throughout the mental health profession, including articles concerned with behavior modification, operant conditioning in psychotherapy, behavior therapy, reinforcement therapy, and related topics; (III) Films: a list of films concerned with demonstrations of principles and techniques in behavior modification, operant conditioning, behavior therapy, reinforcement therapy, and related subjects, some involving demonstrations of basic operant conditioning phenomena in animals, others in humans, and still others in both animals and humans. **(19)**

FERNALD, L. DODGE and PETER S. FERNALD. **Overview of general psychology: a basic program.** Boston: Houghton Mifflin Company, 1966. 354 pp.

This programmed text attempts to clarify and emphasize only the major basic principles of general psychology. It is meant to be a comprehensive overview. The major problems and achievements in psychology are examined together with practical and meaningful examples. Chapter titles indicate contents: (1) The Science of Psychology; (2) The Human Organism; (3) Individual Differences: Measurement; (4) How Individual Differences Originate; (5) Intelligence; (6) Motivation; (7) Feeling and Emotion; (8) Conflict and Adjustment; (9) Personality; (10) The Learning Process; (11) Foundations of Learning; (12) Remembering and Forgetting; (13) Thinking; (14) Communication and Language; (15) Knowing Our World; (16) Attending and Perceiving; (17) Social Behavior; and (18) Working Efficiently. A diagnostic summary, appendices containing a sample chapter outline, evaluation studies, a cross-reference chart, and an index-glossary are included. **(20)**

GILES, H. HARRY. Seven strangers at the feast. **Educational technology** 5:11, June 15, 1965. pp. 1-6.

Seven ideas which could have a determining educational effect are suggested: (1) Human potential is limitless; (2) Emotional growth is basic to social and intellectual growth; (3) Cultural patterns may aid or block development; (4) Shared experience is the basis for communication; (5) Man is a meaning-seeking creature; (6) The creative act emerges from field and focus; and (7) Problem-solving is the road to learning. **(21)**

GOLDIAMOND, ISRAEL. Justified and unjustified alarm over behavioral control. IN Milton, Ohmer (ed.). **Behavior disorders: perspective and trends.** New York: J.B. Lippincott Company, 1965. pp. 237-262.

The alarm caused by studies and experiments with behavioral control comes from a misunderstanding of the science of behavior itself. Close attention to studies of certain aspects of behavioral control disclose that much of this alarm is not relevant to the issue of scientific control of behavior. Studies that have been misunderstood include those related to subliminal perception, operant conditioning, behavioral analysis, cybernetics, freedom and behavioral analysis, self-control, and behavior technology and conformity. By applying the scientific method to behavior, man can himself become a behavioral force that might be applied to his own behavior and self-control. Justified alarm is occasioned by the growth of two languages about man's behavior. This dichotomy in communication alienates literate man from the developing analysis and technology of behavioral control. **(22)**

GRINKER, ROY R. (ed.). **Toward a unified theory of human behavior.** New York: Basic Books, 1956. 375 pp.

Twenty-four essays originally presented at four annual conferences on human behavior are included. Authors represent a variety of disciplines–biology, psychology, psychiatry, and the social sciences. Contents are: (1) The Intra-personal Organization, by Roy R. Grinker; (2) A Model for Relationships Among Systems, by John P. Spiegel; (3) The Psychological System, by David Shakow; (4) The Observer and the Observed: Human Communication Theory, by Jurgen Ruesch; (5) The Social System: A General Theory of Action, by Talcott Parsons; (6) The Societal System, Culture and the Community, by Laura Thompson; (7) Value Orientations, by Florence Kluckhohn; (8) A System of Socio-Psychiatric Invariants, by Jules Henry; (9) General Discussion Terminating the First Conference; (10) Comparisons Between Systems of Organizations, by Roy R. Grinker; (11) Multiple Origins of the Uniqueness of Human Society, by James E. P. Toman; (12) Homeostasis and Comparison of Systems, by Alfred E. Emerson; (13) Comparison of Psychological and Group Foci, by John P. Spiegel; (14) Comparison of Psychological and Group Foci (continued), by David Shakow; (15) The Relation Between the Small Group and the Larger Social System, by Talcott Parsons; (16) Social Systems and Culture, by Lawrence K. Frank; (17) Homeostasis Reconsidered, by Anatol Rapoport; (18) Stability vs. Adaptation: Some Speculations on the Evolution of Dynamic Reciprocating Mechanisms, by James E. P. Toman; (19) Homeostasis in a Special Life Situation, by Jules Henry; (20) Autonomy and Boundaries According to Communications Theories, by Karl Deutsch; (21) Concluding Discussion of the Third Conference and an Outline for Future Conference Deliberations; (22) Statistical Boundaries, by Anatol Rapoport; (23) Boundary Relations Between Sociocultural and Personality Systems, by Talcott Parsons; (24) Analysis of Various Boundaries, by Jurgen Ruesch. **(23)**

HANDY, ROLLO and PAUL KRUTZ. **A current appraisal of the behavioral sciences.** Great Barrington, Mass.: Behavioral Research Council 1964. 154 pp.

Each of 16 fields surveyed is discussed uniformly using the following nine principal topics: (1) Working Specification of the Field; (2) Other Specifications of the Field; (3) Schools, Methods, Techniques; (4) Results Achieved; (5) Contemporary Controversy; (6) Problems of Terminology; (7) Comment and Evaluation; (8) Selected Bibliography; and (9) Germane Journals. The fields are divided into two sections: The Older Fields–Anthropology, Sociology, History, Economics, Political Science, Jurisprudence, Psychology, Education; and The Newer Fields–Communication Theory (Information Theory, Cybernetics, Linguistics, Sign-Behavior), Preferential Behavior (Game Theory, Decision-Making Theory, Value Inquiry), and General Systems. An index is included. **(24)**

HUBER, GEORGE P. The application of behavioral science theory to professional development. **Academy of management journal** 10:3, September 1967. pp. 275-286.

The author explores and categorizes basic behavioral science findings useful to managers in devising professional development systems, and under each category lists a set of propositions with applicable strategies and tactics. *(USCSC 1, edited)* **(25)**

KNUTSON, ANDIE L. **The individual, society, and health behavior.** New York: Russell Sage Foundation, 1965. 533 pp.

This book deals with man as a member of society and with his concern for public health. Theory, research, and practice are united for the public health practitioner. The book's parts and chapter titles are: Part I, General Characteristics of Man (Man as Part of Environment; The Unity of Man; Man as a Social Animal, The Uniqueness of Man; Patterns of Individual Variation; The Behavioral Cycle); Part II, Man in His Social Environment (Society and Culture; Placing Man in His Social Habitat; Position, Status, and Role; The Meaning of Food); Part III, Perceiving the World (Man's Knowledge Comes from Experience; The Function and Process of Perception; Man's Private World); Part IV, Social Motivation (The Search for the Sources of Man's Energy; Motivation Research: an Elusive Challenge; Motivation in Health Action; Patterns of Striving); Part V, Values, Attitudes, and Beliefs (Values and Value Patterns; Attitudes and Beliefs, by Ronald C. Dillehay); Part VI, The Process of Socialization (Acquiring Social Behaviors; Perceptual Development and Deprivation); Part VII, Human Learning and Health Action (Learning Theories and Health Action; Learning Components of Public Health Programs; Verbal Conditioning); Part VIII, The Communication Process (The Crisis in Medical Communication; The Communicator for Public Health Agencies; Frames of Reference in Public Health; The Role of Mass Media in Public Health, by William Griffiths and Andie Knutson; Interpersonal Communication Within Organizations). There is a name and subject index. **(26)**

KRAMER, BERNARD. Social context as a determinant of behavior. IN Abrams, Arnold, Harry Garner and James Toman (eds.). **Unfinished tasks in the behavioral sciences.** Baltimore: The Williams & Wilkins Company, 1964. pp. 181-194.

The most pressing need in the behavioral sciences is to master the implications flowing from the context of behavior. Some of the pressing social and moral problems of mankind will find their solution not in the study of individual behavior, but rather in the study of the dynamic implications of broad social system characteristics. We ought to consider the possibility of resuming the nineteenth century tradition of social experimentation in order to see how in consciously planned, large-scale communities, particular environmental arrangements affect human behavior in broad terms of values, attitudes, belief systems, and moral fiber. The scope of behavioral science should be widened to include fields relevant to the context of human events, such as history, economics, and political science. **(27)**

KUBZANSKY, PHILIP E. The effects of reduced environmental stimulation on human behavior: a review. IN Bidderman, A. D. and H. Zimmerman (eds.). **The manipulation of behavior.** New York: John Wiley & Sons, 1961. pp. 51-96.

Variously called "sensory deprivation," "sensory isolation," or "perceptual isolation," the effects upon human behavior of a reduction in either absolute or related amounts of sensory or perceptual stimulation are the subject of experimental investigations reported in this study. Resultant changes in behavior have been modifications in thinking, perception, and feeling states, as well as an increase in imagery, often bizarre in content. The purpose of the study is threefold: (1) to examine briefly the sources of interest in this problem, (2) to review the extant experimental literature in order to assess the current status of knowledge about this problem, and (3) to review briefly its implications for our general understanding of behavior. The material is discussed according to the following outline: background, methodological considerations, empirical findings, perceptual and motor abilities, cognitive and learning abilities, suggestibility, personality findings, feeling states, imagery, physiological findings, length of stay in experimental isolation and time perception, stimulus hunger, influence of experimental setting, clinical and anecdotal reports, and interpretations and implications. A list of 81 references is included. **(28)**

LAMBERT, WILLIAM W. and WALLACE E. LAMBERT. **Social psychology**. Englewood Cliffs, N.J.: Prentice-Hall, 1964. 110 pp.

An introductory text in social psychology designed for college level courses is presented. Chapter titles and topic headings describe the contents: (1) Social Psychology, Its Major Concerns and Approaches; (2) Socialization (Resocialization, The Social Context of Personality Formation, Some Strands of the Socialization Process); (3) Perceiving and Judging Social Events (On Failure of Perception, The Problems of Perception, The Perception of the Line of Regard, The Perception of Facial Expression, Forming Impressions of Others, Conditions for Judging Social Events, Perception and Conceptualization, The Perception of Social Roles); (4) The Social Significance of Attitudes (The Nature of Attitudes, The Measurement of Attitudes, The Function of Attitudes, The Development of Attitudes, The Modification of Attitudes); (5) Social Interaction (Social Interaction and the Principle of Need Satisfaction, Interaction and Theory of Social Systems); (6) The Individual in Group Settings (The Psychological Effect of Participation in Groups, Psychological Effects of Variations in Group Organization, The Psychology of Intergroup Conflict, The Psychological Effects of Multiple-Group Allegiances); (7) Culture and Social Psychology (A Large Question, Personality and Economic Development, Personality and Expressive Cultural Models, Other Sources of Personality and Culture). A list of selected readings and an index are included. **(29)**

MANN, JOHN. **Changing human behavior**. New York: Charles Scribner's Sons, 1965. 235 pp.

This volume concentrates on an approach, adopted by scientists interested in behavior changes, that utilizes experimental methods to study specific aspects, or components, of behavior-change processes under controlled conditions. It therefore limits itself to topics about which clear, scientific evidence is available. Chapter titles are: The Evaluation of Behavior-Change Processes; Models of Behavior-Change Systems; The Psychopharmacology Revolution; Hypnotic Suggestion; Learning and Conditioning; Components of Psychotherapy; The Small Group as a Behavior-Change Medium; Attitude Change Produced by Interpersonal Influence; The Mass Media as Vehicles for Attitude Change; Improving Intergroup Relations; Creativity; The Extension of Human Development; Eastern Religions and Philosophies; and Western Religions and Philosophies. The two appendixes are entitled "Technical and Social Difficulties in the Conduct of Evaluative Research" and "The Outcome of Evaluative Research." References, a glossary, suggestions for further reading, and an index are included. **(30)**

MEAD, GEORGE H. **Mind, self, and society from the standpoint of a social behaviorist** (edited, with an introduction by Charles W. Morris). Chicago: University of Chicago Press, 1934. 401 pp.

The book represents the larger outlines of George H. Mead's system of social psychology. Though he published many papers in the field of social psychology, Mead never systematized his position and results in longer form. The present volume aims to do this task of systematization, partly by the arrangement of the material and partly through references at the appropriate places to the published writings. Four supplementary essays by Mead are included in the volume, along with a bibliography and index. **(31)**

MILLER, GEORGE A., EUGENE GALANTER and KARL H. PRIBRAM. **Plans and the structure of behavior.** New York: Henry Holt & Company, 1960. 226 pp.

The fundamental concern of the debate on which this book is based was to discover whether cybernetic ideas have any relevance for psychology. Since the notion of a plan that guides behavior is quite similar to the notion of a program that guides an electronic computer, the cybernetic literature on analysis between brains and computers, minds and programs, was reviewed in the course of the debate. The authors state, "There must be some way to phrase the new ideas so that they contribute to and profit from the science of behavior that psychologists have created. It was the search for that favorable intersection that directed the course of our year-long debate." Chapter titles are: (1) Images and Plans; (2) The Unit of Analysis; (3) The Simulation of Psychological Processes; (4) Values, Intentions, and the Execution of Plans; (5) Instincts; (6) Motor Skills and Habits; (7) The Integration of Plans; (8) Relinquishing the Plan; (9) Nondynamic Aspects of Personality; (10) Plans for Remembering; (11) Plans for Speaking; (12) Plans for Searching and Solving; (13) The Formation of Plans; (14) Some Neuropsychological Speculations. There are name and subject indexes. **(32)**

MURPHY, GARDNER. Toward a science of individuality. IN Abrams, Arnold, Harry Garner and James Toman (eds.). **Unfinished tasks in the behavioral sciences.** Baltimore: The Williams & Wilkins Company, 1964. pp. 202-213.

The relationship between genetics and environment suggests several hypotheses: There is an interaction between an identifiable heredity component and a recognizable environmental determinant in perceiving, remembering, imagining or thinking; a science of individuality must be simultaneously behavioral and perceptual, and it must be transactional, recognizing commerce between the inside and the outside components; ecological variables, biological variables, and the relationships between them need to be measured. The science of individuality is ultimately the science of biography; and its development will call for more use of programming and teaching machines and sensitive, personal clinical devices for studying individuals. **(33)**

NIEHOFF, ARTHUR H. and J. CHARNEL ANDERSON. Peasant fatalism and socioeconomic innovation. **Human organization**, vol. 25, Winter 1966. pp. 273-283.

Fatalism as discussed is a type of negativism which is considered by many social scientists and technical assistance workers to be a barrier to change in peasant societies. Fifty-seven case histories of the introduction of new ideas or techniques into social units of developing nations in which traditional belief systems were in conflict with the innovations were analyzed to reveal more exactly the nature of fatalistic attitudes and beliefs (those which imply that conditions cannot be changed through practical, mundane effort). Three types of fatalism are isolated: supernatural, situational (real understanding of limited possibilities for improvement), and project negativism (apathy resulting from previous project failures). It is concluded that fatalistic forces are significant but do not constitute a critical influence nearly as often as do other characteristics of the traditional society or of change agent behavior. Negativism alone is not considered a tenable explanation for rejection of an innovation. Project negativism seems to be increasing. This kind of fatalism can be prevented by change agents, for "past and present change agents are themselves generating this negative force through badly planned and executed projects." Sociocultural awareness in sociotechnical change projects is needed so that the projects will not only be technically sound, but integrated with the lives of people concerned. **(34)**

PAUL, BENJAMIN E. **Health, culture and community; case studies of public reactions to health programs.** New York: Russell Sage Foundation, 1955. 493 pp.

The major purpose of the collection is to demonstrate the importance to the health worker of clearly understanding the people whom he serves, and to illustrate the contribution which the behavioral or social scientist with his special concepts, tools, and methodology can make to this understanding. "The threads of health and illness are woven into the sociocultural fabric and assume full significance only when perceived as part of the total design. Each study in this book is a case in point." Parts and case subjects are: Part I, Reeducating the Community (a comprehensive health program in South Africa; mental health education in a Canadian community; water boiling in a Peruvian town); Part II, Reaction to Crises (medicine and faith in Rajasthan; a cholera epidemic in a Chinese town; diphtheria immunization in a Thai community); Part III, Sex Patterns and Population Problems (birth control in Puerto Rico; abortion on a Pacific Island); Part IV, Effects of Social Segmentation (Western medicine in an Indian village; an Alabama town health needs survey; a mental health project in Boston); Part V, Vehicles of Health Administration (the clinical team in a Chilean health center; a community improvement project in Brazil; a medical care program in Colorado); Part VI, Combining Service and Research (medicine and politics in a Mexican village; a nutritional research program in Guatemala). A final section, Review of Concepts and Contents, discusses concepts of society and culture, race and culture, culture and perception, the patterning of culture, and innovation. References and an index are included. [Located too late for indexing.]

PIAGET, JEAN. **The origins of intelligence in children**, translated by Margaret Cook. New York: International Universities Press, 1952. 419 pp.

This work is the first of three studies dedicated to the beginnings of intelligence, that is, to the various manifestations of sensorimotor intelligence and to the most elementary forms of expression. Part and chapter titles indicate contents: Introduction: The Biological Problem of Intelligence; Part I, Elementary Sensorimotor Adaptations—(1) The First Stage: The Use of Reflexes, (2) The Second Stage: The First Acquired Adaptations and the Primary Circular Reaction; Part II, The Intentional Sensorimotor Adaptations—(3) The Third Stage: The "Secondary Circular Reactions" and the Procedures Destined to Make Interesting Sights Last; (4) The Fourth Stage: The Coordination of the Secondary Schemata and Their Application to New Situations; (5) The Fifth Stage: The "Tertiary Circular Reaction" and the "Discovery of New Means Through Active Experimentation"; (6) The Sixth Stage: The Invention of New Means Through Mental Combinations; Conclusions: "Sensorimotor" or "Practical" Intelligence and the Theories of Intelligence. [Located too late for indexing.]

RUSSELL, CLAIRE and W. M. S. RUSSELL. **Human behavior: a new approach.** Boston: Little, Brown & Company, 1961. 532 pp.

The new approach explicitly stated in the preface involves: (a) classification of behavior as "instinctive" or automatic (as in lower animals), or as "intelligent" (as in fully-human, self-conscious, civilized beings); (b) the suggestion that Freud accepted too readily the symbols of infantile rationalization as being of universal validity—that these really derive from the neurotic fantasies of parents who, in exploiting their children, ensure the perpetuation of these fantasies in them; and (c) the claim that recognition of (a) and (b) could lead to a continually evolving and progressive state of mind in the individual, with a corresponding state of society. The chapters are: (1) Introduction; (2) Intelligence, Instinct, and Rationalization; (3) Social Relations and the Uses of Speech; (4) Behavioral Inheritance; (5) Threefold and Fourfold Relationships; (6) Pseudosex; (7) Phases of Personality; (8) Sophocles and the King of Thebes; (9) Shakespeare and the Prince of Denmark; and (10) Cultural Evolution. Appendices on 17 related subjects are included, as well as references, a source index, and a subject index. **(35)**

SKINNER, B. F. **Science and human behavior**. New York: Macmillan, 1953. 461 pp.

The basic questions of the scientific analysis of human behavior are explored against traditional conceptions of human nature and traditional ways of observing, classifying, and judging human behavior. Some of the underlying, basic questions that the author examines are: In what way can the behavior of the individual or of groups of individuals be predicted or controlled?, What are laws of behavior like?, What overall conception of the human organism as a behaving system emerges? Section and chapter titles describe the contents: Section I, The Possibility of a Science of Human Behavior—(1) Can Science Help?, (2) A Science of Behavior, (3) Why Organisms Behave; Section II, The Analysis of Behavior—(4) Reflexes and Conditioned Reflexes, (5) Operant Behavior, (6) Shaping and Maintaining Operant Behavior, (7) Operant Discrimination, (8) The Controlling Environment, (9) Deprivation and Satiation, (10) Emotion, (11) Aversion, Avoidance, Anxiety, (12) Punishment, (13) Function versus Aspect, (14) The Analysis of Complex Cases; Section III, The Individual as a Whole—(15) "Self-Control," (16) Thinking, (17) Private Events in a Natural Science, (18) The Self; Section IV, The Behavior of People in Groups—(19) Social Behavior, (20) Personal Control, (21) Group Control; Section V, Controlling Agencies—(22) Government and Law, (23) Religion, (24) Psychotherapy, (25) Economic Control, (26) Education; Section VI, The Control of Human Behavior—(27) Culture and Control, (28) Designing a Culture, (29) The Problems of Control. An index is included. **(36)**

STEVENS, S. S. (ed.). **Handbook of experimental psychology**. New York: John Wiley & Sons, 1951. 1436 pp.

This indexed collection of 36 essays by specialists in experimental psychology includes units on psychological mechanisms, growth and development, motivation, learning and adjustment, sensory processes, and human performance. The last unit has several chapters relevant to training. Each essay has a list of references. **(37)**

STRAUSS, ANSELM L. **Mirrors and masks—the search for identity**. Glencoe, Ill.: The Free Press, 1959. 186 pp.

The book is an extended essay divided into six chapters: (1) Language and Identity; (2) Self-Appraisals and the Course of Action; (3) Interaction; (4) Transformations of Identity; (5) Change and Community; (6) Memberships and History. The author attempts "to bring together an emphasis upon symbolic behavior and another emphasis upon social organization—and by doing so to suggest a fruitful, systematic perspective from which the traditional problems of social psychology might be viewed." References and an index are included. **(38)**

THOMAS, EDWIN J. and ESTHER GOODMAN (eds.). **Socio-behavioral theory and interpersonal helping in social work; lectures and institute proceedings**. Ann Arbor, Mich.: Campus Publishers, 1965. 65 pp.

Lectures, summaries of classification sessions and discussions, and the list of readings for an institute designed to introduce some of the key notions of socio-behavioral theory to selected field instructors of the University of Michigan School of Social Work are presented. Readers are urged to coordinate the reading of references listed—or analogous writings—with the lecture content presented. Subjects of lectures which were presented by Edwin J. Thomas with the assistance of Esther Goodman are: objectives of the institute; relevance of the socio-behavioral approach; the socio-behavioral approach; reinforcement; maintaining behavior; extinction; punishment; discrimination; imitation; implications for social work practice; and some limitations of socio-behavioral theory. Objectives of the institute were: to prepare the field instructors to delve into the growing literature on the subject; to help them relate the ideas to more familiar conceptions and practices; to supplement and sharpen current conceptions and helping activities; to familiarize them with another technical language; to help them understand what others were talking about in this area; and to help them begin the thinking, experimentation, and appraisal of the innovations that must necessarily accompany the introduction of important scientific knowledge in a profession such as social work. Six required readings and nine optional readings are listed. **(39)**

ULRICH, ROGER, THOMAS STOCHNIK and JOHN MABRY. **Control of human behavior.** Glenview, Ill.: Scott, Foresman & Company, 1966. 349 pp.

This is a compilation of papers by various specialists arranged under the following parts and subparts: (I) The Scientific Analysis of Behavior (assumptions underlying behavioral control; principles and methods in the experimental analysis of behavior; early examples of the analysis of human behavior); (II) Applications of Behavior Control (behavior modification in educational settings; principles and control of social behavior; modification of disordered behavior; modification of severe behavior disorders; psychological and chemical modification of behavior in industry and advertising; the use of animals to perform typically human tasks); (III) Fallacies in the Interpretation and Control of Behavior (fallacies in interpretation; fallacies in control); and (IV) Implications of Behavior Control (concern over the control of human behavior; the future of behavior control). There are 11 pages of references. **(40)**

YOUNG, MARJORIE A. C. and JEANNETTE J. SIMMONS. Review of research and studies related to health education practice (1961-1966)–psychological and cultural factors related to health education practice. **Health education monographs**, no. 24, 1967. 64 pp.

The study is the second in a series of monographs on review of research and studies related to health education practice (1961-1966). The chapter titles indicate the contents: Introduction and General Orientation; Dynamics of Behavior (Motivation and Perception); Role Theory and Analysis; Small Group Research and Studies; Studies of Organizations and Organizational Change; Community Studies; Studies Related to Social Change; Summary. References are included at the end of each chapter. **(41)**

ZANDER, ALVIN. Resistance to change–its analysis and prevention. **Advanced management** 15:1, January 1950. pp. 9-11.

Obvious improvements have sometimes caused intense resistance. Research shows that any change may be resented unless intelligent planning is done in advance to help the "changees" understand their own feelings. The nature of resistance, the conditions that appear to be associated with its development, and some means whereby resistance may be prevented or decreased are discussed. **(42)**

PERCEPTION

BROADBENT, D. E. **Perception and communication.** New York: Pergamon Press, 1958. 338 pp.

Chapter titles indicate contents: (1) Introduction: Hearing and Behavior; (2) Selective Listening to Speech; (3) Verbal and Bodily Response; (4) The Assessment of Communications Channels for Ease of Listening; (5) The Effect of Noise on Behavior; (6) The General Nature of Vigilance; (7) Some Data on Individual Differences; (8) The Nature of Extinction; (9) Immediate Memory and the Shifting of Attention; (10) The Selective Nature of Learning; (11) Recent Views of Skill; (12) Retrospect and Prospect. There is a 16-page bibliography. Name and subject indexes are provided. **(43)**

DEMBER, WILLIAM N. **The psychology of perception.** New York: Henry Holt & Company, 1960. 402 pp.

This is a basic text on the psychology of perception designed for use in a one-semester laboratory course (undergraduate level). Chapter titles and topic headings describe the contents: (1) Introduction (The Study of Perception, The Basic Perceptual Processes); (2) Threshold Measurement Techniques (Two Basic Aspects of Threshold Measurement, Detection, Discrimination, Recognition and Identification); (3) Similarity Measurement and Stimulus Scaling (What Is an Attribute?, Stimulus Scaling); (4) Visual Psychophysics (Detection, Discrimination); (5) The Organization of Visual Perception (Figure Formation and Stability, Two-Dimensional Spatial Organization, Three-Dimensional Spatial Organization); (6) The Influence of Context (Intramodal Manipulations, Intermodal Manipulations); (7) Effects of Learning on Perception (Learning in Perceptual Development, Discrimination Training, Learning in Complex Human Perception); (8) Set and Perception (Recognition, Attributive Judgments and Figure-Ground); (9) Motivation Effects on Perception (Motivation and Stimulus Thresholds, Motivation and Suprathreshold Phenomena); (10) Stimulus Complexity, Motivation, and Emotion (Curiosity and Exploratory Behavior, Stimulus Complexity, Learning, and Emotion). References, an author index, and a subject index are included. **(44)**

EPSTEIN, WILLIAM. **Varieties of perceptual learning.** New York: McGraw-Hill, 1967. 323 pp.

Perceptual learning refers to the broad range of modifications of perception that have been attributed to learning. Intended for an audience of varying levels of sophistication in the field of perceptual learning, the book has three primary goals: (1) a critical review of the diverse literature pertaining to the question of perceptual learning; (2) a delineation of important unresolved questions related to perceptual learning; (3) a determination of the possibilities for deriving empirically based descriptive generalizations about perceptual learning. The contents are: (1) Varieties of Perceptual Learning; (2) The Assumptive Context: I, The Perception of Size and Distance; (3) The Assumptive Context: II, The Perception of Shape, Slant, and Motion; (4) The Assumptive Context: III, The Perception of Color; (5) Controlled Practice of Training: I, The Role of Practice and Prior Exposure; (6) Controlled Practice or Training: II, The Acquired Distinctiveness of Cues; (7) Controlled Practice of Training: III, The Effect of Reward and Punishment; (8) Perceptual Conflict; (9) Adaptation to Transformed Stimulation; (10) Developmental Studies of Perception; (11) General Conclusions and Proposals. A glossary and a name and subject index are included. **(45)**

FORGUS, RONALD H. **Perception: the basic process in cognitive development.** New York: McGraw-Hill, 1966. 402 pp.

The basic thesis of the book, set forth in the beginning chapter, is that perception is the superset of information extraction, with learning and thinking as subsets. In connection with this theory, it is argued, on logical and experimental grounds, that an exclusively nativistic or empirical theory of perception is untenable. Rather, as argued in Chapter 2, perception is organized in an ordinal hierarchy, beginning with built-in programs and developing by increasing degrees to modified programs. Chapters 3 and 4 deal with some basic psychophysical functions and problems of methodology, and the principles organized around each level of the hierarchy are analyzed from brightness through form to social perception and conceptualization. Since the concept of information extraction was used to analyze and conceptualize the process of perception, this analysis is extended to the area of thinking in the last four chapters, although technical language is held to a minimum. A bibliography and index are included. **(46)**

GIBSON, JAMES J. **The senses considered as perceptual systems.** New York: Houghton Mifflin Company, 1966. 335 pp.

The chief aim of the book is to explain how the senses, as active interrelated systems, provide continuous, stable information that alone makes adaptive living possible. Successive chapters embrace the contribution made by each of the main receptor systems that are basic to the adjustment of the organism to its world. The author introduces the concept of "ecological optics," and in terms of this point of view the book examines some fundamental questions in psychology: What is innate and what is acquired in perception?, What is the role of learning in establishing adult perception?, How is perceiving related to expectancy?, What is the effect of language on perceiving?, What are perceptual illusions? A bibliography and index are included. **(47)**

ITTELSON, WILLIAM H. and HADLEY CANTRIL. **Perception: a transactional approach.** Garden City, New York: Doubleday & Company, 1954. 33 pp.

The transactional approach, a scientific philosophy, is applied to human perception. Illustrating the perspective offered is the summary of the major characteristics of perception in the statement: "Perceiving is that part of the process of living by which each of us, from his own particular point of view, creates for himself the world within which he has his life's experiences and through which he strives to gain his satisfactions. . . . Without taking any metaphysical position regarding the existence of a real world, independent of experience, we can nevertheless assert that the world-as experienced has no meaning and cannot be defined independent of the experience. The world as we experience it is the product of perception, not the cause of it." The nature of perception, how it is studied, its development, and perception in operation are reviewed. Suggestions for further reading are included. **(48)**

TAYLOR, JAMES G. **The behavioral basis of perception.** New Haven, Conn.: Yale University Press, 1962. 379 pp.

The thesis of the book is that all conscious experience is a function of learned behavior, although the detailed exposition is confined to a relatively restricted sector of experience, the visual perception of the material environment. Chapter titles are: (1) Introduction; (2) The Beginning of Adaptation to the Environment; (3) The Beginnings of Space Perception; (4) Further Development of Space Perception; (5) Gravity; (6) Expanding the Visual Field; (7) Parallax; (8) Experimental Evidence (Mathematical Appendix, by Seymour Papert); (9) Three Experiments; (10) The Perception of Color; (11) The Modalities; (12) Other Theories; (13) Philosophical Implications. References and an index are included. **(49)**

MOTIVATION

ATKINSON, JOHN W. **An introduction to motivation.** Princeton, N. J.: D. Van Nostrand Company, 1964. 335 pp.

Designed for both beginning and advanced students of the subject, the book is intended as a basic introduction to and identification of the concepts of the psychology of motivation. Chapter titles describe the contents: (1) Introduction: The Viewpoint of Common Sense; (2) Introspective Analysis of Conscious Volition; (3) Indirect Analysis of Unconscious Motives; (4) Conceptual Analysis of Motivation and Conflict; (5) Experimental Analysis of Purposive Behavior; (6) The Foundation of S-R Behavior Theory; (7) The Evaluation of S-R Behavior Theory; (8) Systematic Study of Human Motivation; (9) A Theory of Achievement Motivation; (10) A Speculative Review and Prospectus. References and name and subject indexes are included. **(50)**

ATKINSON, JOHN and NORMAN T. FEATHER (eds.). **A theory of achievement motivation.** New York: John Wiley & Sons, 1966. 392 pp.

"This book is a report of research growing out of a project on personality dynamics sponsored by the Ford Foundation at the University of Michigan from 1956 to 1962. It is also a progress report of a program studying achievement motivation which was initiated in experiments on projective expression of needs by McClelland and coworkers (McClelland and Atkinson, 1948)." This is a collection of papers with overall emphasis on "contemporaneous determinants of achievement-oriented activities." *(USCSC 1, edited)* **(51)**

BIRCH, DAVID and JOSEPH VEROFF. **Motivation: a study of action.** Belmont, Calif.: Brooks Cole Publishing Company, 1966. 98 pp.

Theories of motivation based on a behavioral approach are presented. Motivational principles are formulated on the basis of experimental observations of animal and human actions in a variety of contexts. Chapter titles are: (1) A Theoretical Context for the Study of Motivation (The Principles of Action, Determinants of Tendencies); (2) The Experimental Approach to Motivation (Activities Studies in the Laboratory, Incentive, Motive, Consummatory Value, Drive); (3) Explanations of Recurrent Instrumental and Consummatory Behavior (The Sensory Incentive System, The Curiosity Incentive System, The Achievement Incentive System, The Affiliative Incentive System, The Aggressive Incentive System, The Power Incentive System, The Independence Incentive System). References and an index are included. **(52)**

BRETHOWER, DALE M. and GEARY A. RUMMLER. For improved work performance: accentuate the positive. **Personnel** 43:5, September-October, 1966. pp. 40-49.

Examples are cited of common situations which require a manager to attempt to change employees' behavior to a specified goal, and the value of applying behavioral technology as a management technique in these situations is discussed. How behavioral technology may be used to identify, train, and maintain relevant job behavior is discussed under the topic headings: Carrots and Sticks, Analyzing Problems, Job Behavior, Designing Learning Systems, The Nature of Reinforcers, Schedules of Reinforcement, Time Between Act and Consequence, Motivation and Behavior, Theory and Practice, and The Whole Job. **(53)**

BRUNING, JAMES L. and DAVID R. METTEE. The effects of various social factors on motivation in a competitive situation. **Journal of social psychology**, vol. 70, second half, December 1966. pp. 295-297.

This is a report of two experiments. One investigated the effects of opponent proximity on performance; the other, performance as it was affected by the proportion of wins and losses experienced by the subjects. *(USCSC 1, edited)* **(54)**

BUCHANAN, PAUL C. **The leader looks at individual motivation** (Looking Into Leadership series). Washington, D. C.: Leadership Resources, Inc., 1961. 11 pp.

Six questions which leaders often ask about motivation are cited as evidence of the importance of understanding this factor in human behavior. Five forces in human behavior are examined: (1) behavior depends on both the person and his environment; (2) each individual behaves in ways which make sense to him: (3) an individual's perception of a situation influences his behavior in that situation; (4) an individual's view of himself influences what he does; (5) an individual's behavior is influenced by his needs, which vary from person to person and from time to time. Hierarchy of needs from physiological to self-actualizing is discussed. The importance of past learning and its integrative effect on behavior are stressed. Guidelines and specific questions for self-appraisal are offered. Six references are suggested for further reading. **(55)**

COFER, C. N. and M. H. APPLEY. **Motivation: theory and research.** New York: John Wiley & Sons, 1967. 958 pp.

The major purpose of this volume is to examine some of the main forms that motivational concepts have assumed in the major theoretical systems current in contemporary psychology. To increase the comprehensiveness of the authors' own views, critical reviews are presented not only of the major theoretical systems of motivation, but also of fundamental research in the field that is not part of any one systematic outlook. The authors are concerned throughout the book primarily with concepts and evidence pertinent to motivational construction themselves, rather than motivation concepts secondary to principles of learning, perception, or personality organization. Chapter titles further describe the contents: (1) The Concept of Motivation; (2) Motivation in Historical Perspective; (3) The Concept Instinct: Ethological Position; (4) Bodily Conditions: I; (5) Bodily Conditions: II; (6) Activity and Exploration; (7) Homeostatic Concepts and Motivation; (8) Hedonic and Activation Theories of Emotion; (9) Frustration, Conflict, and Stress; (10) Motivation in Learning Theory: Drive and Incentive; (11) Learning, Performance, Reinforcement, and Acquired Motivation Theory; (12) Psychoanalytic Motivation Theory; (13) Self-Actualization and Related Concepts; (14) Some Aspects of Human Motivation; (15) Social Motivation; (16) Toward a Unified Theory of Motivation. A bibliography and author and subject indexes are included. **(56)**

FELDMAN, SHEL (ed.). **Cognitive consistency: motivational antecedents and behavioral consequences.** New York: Academic Press, 1966. 312 pp.

The contributors to this volume represent a number of different viewpoints on the consistency theories and their relationship to other aspects of psychology. Despite their differences, however, they seem to agree that the motivational issue is the most pressing problem for each of the theories: each theory must clarify its stand on the nature of the consistency-seeking motivation and the motivational determinants of that behavior. Some contributors make this point in comprehensive reviews of the entire area; some, in detailed analysis of that single issue, or in reviews of studies highlighting that issue; and some, in careful consideration of the behavioral implications of motivational assumptions. Nine studies are included, along with author and subject indexes. **(57)**

FESTINGER, LEON. **A theory of cognitive dissonance.** Stanford, Calif.: Stanford University Press, 1957. 291 pp.

The two basic hypotheses underlying the theory of motivation developed in the book are: (1) The existence of dissonance (inconsistency–i.e., inconsistent behavior), being psychologically uncomfortable, will motivate the person to try to reduce the dissonance and achieve consonance (consistency–i.e., consistent behavior); and (2) when dissonance is present, in addition to trying to reduce it, the person will actively avoid situations and information which would likely increase the dissonance. The theory is set forth in chapters: (1) An Introduction to the Theory of Dissonance; (2) The Consequences of Decisions: Theory; (3) The Consequences of Decisions: Data; (4) The Effects of Forced Compliance: Data; (5) The Effects of Forced Compliance: Theory; (6) Voluntary and Involuntary Exposure to Information: Theory; (7) Voluntary and Involuntary Exposure to Information: Data; (8) The Role of Social Support: Theory; (9) The Role of Social Support: Data on Influence Process; (10) The Role of Social Support: Data on Mass Phenomena; (11) Recapitulation and Further Suggestions. References and an index are included. **(58)**

FRANKL, VIKTOR E. **Man's search for meaning; an introduction to logotherapy.** New York: Washington Square Press, 1963. 220 pp.

The basic tenet of logotherapy is that man's deepest motivation is to find meaning and a sense of responsibility in his existence. In the author's words, "Logotherapy . . . makes the concept of man into a whole . . . and focuses its attention upon mankind's groping for a higher meaning in life." This school of therapy has been called the Third Viennese School of Psychotherapy (the predecessors being the Freudian and Adlerian Schools). It stresses frustration in the will-to-meaning. This theory developed as the author survived the experience of life in a concentration camp. The major part of the book is an autobiographical description of these experiences in which the author attempts to answer the question: "How was everyday life in a concentration camp reflected in the mind of the average prisoner?" The author gradually introduces his philosophy of logotherapy within the narrative. This book is a revised and enlarged version of *From Death Camp to*

Existentialism. Part Two contains a discussion of basic concepts of logotherapy, among which is emphasis on man's freedom of decision (as opposed to absolute conditioning of choice). As Dr. Frankl states: "Apparently pan-determinism is an infectious disease with which educators have been innoculated; and this is even true of many adherants of religion who are seemingly not aware that they are thereby undermining the very basis of their own convictions. For either man's freedom of decision for or against God, as well as for or against man, must be recognized, or else religion is a delusion, and education an illusion." There is an English bibliography of books, book chapters, articles, and miscellaneous sources on logotherapy and existential analysis. The preface is by Gordon W. Allport, who describes the book as having literary and philosophical merit and providing "a compelling introduction to the most significant psychological movement of our day." **(59)**

FREUD, ANNA. The bearing of the psychoanalytic theory of instinctual drives on certain aspects of human behavior. IN Loewenstein, Rudolph M. (ed.). **Drives, affects, behavior.** New York: International Universities Press, 1953. pp. 259-277.

This paper amplifies the main points of a lecture delivered to the United Nations Educational, Scientific, and Cultural Organization in 1948. It contains suggestions on how to apply psychoanalytic principles to a theoretical discussion of techniques for changing mental attitudes affecting international understanding and consequently how to use psychoanalytic knowledge practically to further the aims of a World Organization interested in spreading insight into the basic nature of a child's instinctual drives and their bearing on the socialization and character formation of human individuals. Part I is a discussion of the theories of conflict and tension in terms of early emotional dependence on parents, sex development, early aggressive development, ambivalence of feeling as a source of tension, displacement of hate onto strangers, projection of aggression as a source of tension, and persistence of established attitudes. Part II, Difficulties of Verification and Practical Application, discusses acceptance by the general public. Part III is entitled, Wartime Demonstrations and Experiments. Part IV, Conclusions and Recommendations, contains a summary of 18 specific conclusions from the data. It is suggested that in order to achieve noticeable alterations in the attitudes of a new generation of children, current educational methods will have to be revised. A program of research with children in various parts of the world is suggested and 5 specific problems which might be studies as a way to demonstrate the effects of childhood experience on adult behavior are outlined. [Located too late for indexing.]

FRYER, FORREST W. **An evaluation of level of aspiration as a training procedure** (The Ford Foundation doctoral dissertation series). Englewood Cliffs, N. J.: Prentice-Hall, 1964. 92 pp.

An experiment concerned with the following specific questions is reported: "(1) Does the procedure of level of aspiration, consisting of knowledge of results plus goal-setting, possess a motivational property . . . above that of knowledge of results alone?; (2) Is this procedure . . . differentially effective with training of varying difficulty levels?; (3) Do the instructional variations of soliciting 'expectations' compared to 'hopes' differentially influence subsequent performance?; (4) Does the method of expressing the level of aspiration, private or public, influence subsequent performance?" *(USCSC 3, edited)* **(60)**

GALBRAITH, JAY and L. L. CUMMINGS. An empirical investigation of the motivational determinants of task performance: interactive effects between instrumentality–valence and motivation–ability. **Organizational behavior and human performance** 2:3, August 1967. pp. 237-257.

This is a study of the relationship between ability and motivation as related to performance. Consideration is given to the impact of the supervisor on performance within the scope of this study. *(USCSC 1, edited)* **(61)**

GEHMAN, W. S. Application of motivational theory to the teaching process. **The educational forum** 28:3, March 1964. pp. 347-354.

This article looks into the possibility of using motivational theory in the instruction process. The motivational theory is a dynamic approach to understanding human behavior which involves a number of basic assumptions which in conjunction with human needs can create a more effective instruction. The assumptions about human behavior are: (1) All behavior is caused; (2) All behavior is purposive; (3) All behavior results from multiple causation; (4) Unconscious processes can and often do operate in determining behavior; (5) Behavior is a continuing process; and (6) Behavior involves the total organism. Examples are given which show how the above assumptions and human needs can combine to give more effective training. *(ASTD)* **(62)**

GELLERMAN, SAUL W. **Motivation and productivity.** New York: American Management Association, 1963. 304 pp.

The three main purposes of the book are: (1) to draw together the most significant achievements in the study of work motivation; (2) to present a theory that puts most of this research into a single, understandable perspective; and (3) to show the practical implication of all this research and theory for management policy. The selected materials represent either older studies (10 years old or more) that have lasting significance or recent material that makes an important contribution to the understanding of work motivation. The book is divided into three parts. The first deals with motivation from the standpoint of the environment, that is, the various kinds of rewards and pressures within which people operate at work. The second part considers motivation from the standpoint of the individual himself, his needs and purpose and how he acquires them. In the third part an attempt is made to show how the environment and the individual interact, and how most of the studies considered in parts one and two can be integrated by a set of linked ideas that accommodates most of what is presently (1963) understood about work motivation. In the final chapter a number of major managerial problems are analyzed in the light of the theory. Titles of parts and chapters are: Part I, The Motivating Environment – (1) Mayo and the Harvard Studies; (2) The Michigan Studies; (3) The Pittsburgh Studies; (4) Further Harvard Studies; (5) The Impact of Money, by William F. Whyte; (6) The Impact of Organization, by Chris Argyris; (7) The Import of Management Philosophy, by Douglas McGregor; (8) Implications; Part II, The Motivated Individual – Introduction; (9) The Classical Theories; (10) The Competence Motive, by Robert W. White; (11) The Affiliation Motive, by Stanley Schacter; (12) The Achievement Motive, by David C. McClelland; (13) Biographical Studies: The Achievement, Prestige, and Security Motives; (14) The Money Motive; Part III, Motivation in Perspective – Introduction; (15) Dynamics of Motive; (16) The Concept of Self; (17) The Environment; (18) Psychological Advantage; (19) Determinants of Advantage; (20) Leadership; (21) Recruitment; (22) Morale; (23) Change; (24) Labor Unions; and (25) The Meaning of Motivation. An index is included. **(63)**

Gellerman motivation and productivity series (films). Rockville, Md.: BNA Films Division of Bureau of National Affairs, Inc.

This is a series of five films: "Understanding Motivation"; "Human Nature and Organizational Realities"; "The Self-Motivated Achiever"; "The Management of Human Assets"; and "Motivation Through Job Enrichment." In these films the informal-interviewer format is used; thus, complicated theories become understandable, believable, and applicable to the reality of modern organizations (industry-oriented). **(64)**

GORHAM, WILLIAM A. and JAMES P. JADLOS. **The motivations to be trained.** Washington, D.C.: U.S. Civil Service Commission, 1963. 11 pp.

A study made to determine conditions that caused satisfaction or dissatisfaction with a training program is reported. Herzberg's "Movitation to Work" was used as a model for the project. *(USCSC 3, edited)* **(65)**

HABER, RALPH N. (ed). **Current research in motivation.** New York: Holt, Rinehart & Winston, 1967. 800 pp.

A compilation of 76 research papers (using both humans and animals as subjects) and theoretical essays on motivation is presented. The papers are arranged in nine chapters: (1) Instinctive Behavior; (2) Primary and Secondary Drives; (3) Punishment Frustration, and Stress; (4) Arousal of Activation; (5) Exploratory Behavior; (6) Rewards and Incentives; (7) Conflict; (8) Anxiety and Guilt; (9) Fantasy, Dreams, and Unconscious Processes. References and an index are included. **(66)**

HAYWOOD, WILLIAM T. Two critical C's in academe. **Journal of the College and University Personnel Association** 18:1, November 1966. pp. 41-45.

The author maintains that the morale and effectiveness of nonacademic personnel rest on four cornerstones: "proper classification . . . , full and adequate job descriptions, competitive and just compensation for services rendered, and due recognition important to the ego. . . ."*(USCSC 1, edited)* **(67)**

HECKHAUSEN, HEINZ. **The anatomy of achievement motivation** (Translated from the German by Kay F. Butler, Robert C. Birney, and David C. McClelland). New York: Academic Press, 1967. 215 pp.

The author presents a comprehensive account of the empirical investigations that have been conducted on achievement motivation in many parts of the world. He also presents an integrated account of the theoretical implications of the data both for a theory of achievement motivation in particular and for theories of motivation in general. Chapters are: (1) Introduction; (2) Content Analysis; (3) Evaluation Dispositions (Value Attitudes); (4) Important Dimensions of Experience; (5) Conflict; (6) The General Structure of Goals and Performance; (7) Foreperiod: Valence and Motive Arousal; (8) Goal Settings and Level of Aspiration; (9) The Performance Period; (10) The Postperformance Period; (11) Accomplishments; (12) Origin and Development of Achievement Motivation; (13) Concluding Remarks. References and author and subject indexes are included. **(68)**

HERZBERG, FREDERICK. **Work and the nature of man.** New York: World Publishing Company, 1966. 203 pp.

This is the third book of a trilogy concerning job attitudes and industrial mental health, the first two being *Job Attitudes: Review of Research* and *The Motivation to Work* (1959). The three represent the three stages of scientific inquiry: knowledge of what has gone before, new research, and finally a theory. This third study is a specific product of more than four years of participation in a multitude of management programs all over the nation and in many parts of Europe in which the author attempted to explain and apply results of his research. In this volume followup studies are reported, and some obscure points in the motivation-hygiene theory are clarified. Chapters are entitled: (1) Business–Dominant Institution of Modern Times; (2) Adam and Abraham; (3) Industry's Concepts of Man; (4) The Basic Needs of Man; (5) Psychological Growth; (6) The Motivation-Hygiene Theory; (7) Verification of the Theory of Motivation-Hygiene; (8) Further Verification of the Motivation-Hygiene Theory; and (9) What Do We Do? The appendix contains descriptions of criteria for each of 16 categories in the coding scheme of objective elements in job situations leading to good or bad feelings. References are cited for each chapter. **(69)**

HERZBERG, FREDERICK, BERNARD MAUSNER and BARBARA BLOCH SNYDERMAN. **The motivation to work.** 2nd edition. New York: John Wiley & Sons, 1959. 157 pp.

A theory of job motivation, job satisfaction, and job attitude derived from results of more than 200 studies of reports by management personnel of their feelings about their jobs is presented. The following basic problems are discussed: assessing an individual's feelings about his job, occurrences on jobs that change people's feelings about them, and the effects of these changes. The motivation-hygiene theory suggests that job factors leading to recognition, achievement, and a sense of personal growth in responsibility are the true motivators and that environmental factors usually used to motivate (i.e., facilities, interpersonal factors, certain fringe benefits) are hygiene factors–necessary to avoid dissatisfaction but not related to real job motivation. It is suggested that current practices are not meeting the needs of employees. Methods are discussed for avoiding harmful employee behavior and increasing employee performance, effectiveness, and personal satisfaction. The major sections of the book contain background and procedure of the study, results, and implications. In the final chapter, Perspective, the theory is discussed in relation to the topics indicated by the following headings: The Meaning of Work in a Primitive Society, Transition to the Machine Age, Work in the Contemporary World, The Consequences of Bureaucracy, The Search for Motivation, The Managerial and Professional World, The Consequences for the Individual and for Society, Suggestions, The Structure of Jobs, Should Jobs Be Made More Interesting?, The Problem of Selection, Supervision, What Then Becomes of the Concept of Participation?, A Program in Mental Health, The Final Goal. Appendices contain a job attitude interview pattern and a categorized list of job attitude factors. There are 61 references and a name and subject index. **(70)**

HOMME, L. E. and D. T. TOSTI. Contingency management and motivation. **National Society for Programmed Instruction journal** 4:7, September 1965. pp. 14-16.

The primary aspect of the practical application of the laws of behavior is motivation, and to control reinforcing events is to control motivation. The nature of reinforcement is discussed, and the reinforcing stimulus and the reinforcing response are examined and integrated into a single concept, the "reinforcing event." The control of the reinforcing event is termed contingency management. In using this technique of motivational control, "one simply takes notice of which behaviors are reinforcing responses, then permits this behavior to occur only after behavior one wishes to reinforce." Specific illustrations of the method are offered and discussed, and the practical difficulties involved are noted. **(71)**

HOUSE, ROBERT J. and LAWRENCE A. WIGDOR. Herzberg's dual-factor theory of job satisfaction and motivation: a review of the evidence and a criticism. **Personnel psychology** 20:4, Winter 1967. pp. 369-389.

"The purpose of this paper is to review the theory, the criticisms, and the empiric investigations reported to date, in an effort to assess the validity of the theory." *(USCSC 1, edited)* **(72)**

HUGHES, CHARLES L. **Goal setting, key to individual and organizational effectiveness.** New York: American Management Association, 1965. 159 pp.

"Today there are many good theories of motivation, many potentially useful concepts about increasing employee commitment to company objectives and goals. This book is an attempt to synthesize these many eclectic ideas and translate them into terms meaningful to the business manager. To do so we must look not only at the theories themselves, but at company practices and management attitudes. This process will bring to light numerous conflicts between theory and application and inevitably point up obsolete thinking and inadequate management behavior" Part and chapter titles are: Part One, Motivation and Management—(1) Conflict—Inevitable or Not?; (2) Needs, Purpose, and Organization; (3) Corporate Planning and Individual Achievement; (4) Theories of Motivation and Management; (5) Goal-Oriented People; (6) Increasing Goal-Oriented Action; Part Two, The Goal Achievement Process—(7) Conditions for Motivation; (8) Motivation Opportunities; (9) Motivation Media; Part Three, Goal-Setting Systems; (10) A Systems Approach to Motivation; (11) A General Model for Goal-Setting Systems; (12) Organizational Goal-Setting Systems; (13) Individual Goal-Setting Systems; (14) Individual and Organizational Goal Interaction; (15) Abilities and Performance; (16) A Total System for Motivation; Part Four, Final Thoughts—(17) The Role of Maintenance Needs; (18) Personal and Private Goals. References are cited in footnotes. **(73)**

INDIK, BERNARD P. Measuring motivation to work. **Personnel adminstration** 29:6, November-December 1966. pp. 39-44.

The author reports information obtained as a by-product of a study on the selection process for the manpower training program under the Manpower Development and Training Act. He applies the theory of David McClelland and John Atkinson on achievement, power, and affiliation motivation to work motivation. *(USCSC 1, edited)* **(74)**

LAWRIE, JOHN W. Motivation and organization. **Personnel journal** 46:1, January 1967. pp. 42-49.

"People need organizations and organizations need people. . . . Yet we find that the mutual facilitation of the satisfaction of these needs has been hindered by incomplete or simplified notions of human motivation on the one hand, and organizational inertia on the other." The author discusses various theories of motivation. *(USCSC 1, edited)* **(75)**

MADSEN, K. B. **Theories of motivation: a comparative study of modern theories of motivation.** 2nd edition. Cleveland, Ohio: Howard Allen, Inc., 1961. 356 pp.

The book deals with psychological concepts and theories of motivation of the past 30 years, and is a systematic analysis and comparison of what the author considers the most important concepts and theories of motivation. There are 20 chapters, divided into three sections: (1) Meta-Theoretical Psychology; (2) Analysis of Theories (20 theories are covered); (3) Comparison of Theories. A bibliography and an index are included. **(76)**

MASLOW, A. H. **Motivation and personality.** New York: Harper & Brothers, 1954. 411 pp.

The concept that "basic human needs [physiological, safety, belongingness and love, esteem, and self-actualization needs] are organized into a hierarchy of relative prepotency" is the focus of this book. Applications to theories of science, personality, psychopathology, psychotherapy, and general psychology are suggested. Chapter titles further indicate contents: (1) Elements of a Psychological Approach to Science; (2) Problem Centering vs. Means Centering in Science; (3) Holistic-Dynamic Theory in the Study of Personality; (4) Preface to Motivation Theory; (5) A Theory of Human Motivation; (6) The Role of Basic Need Gratification in Psychological Theory; (7) The Instinctoid Nature of Basic Needs; (8) Higher and Lower Needs; (9) Psychopathogensis and the Theory of Threat; (10) Is Destructiveness Instinctoid?; (11) The Expressive Component of Behavior; (12) Self-Actualizing People: A Study of Psychological Health; (13) Love in Self-Actualizing People; (14) Cognition of the Individual and of the Generic; (15) Unmotivated and Purposeless Reactions; (16) Psychotherapy, Health, and Motivation; (17) Normality, Health, and Values; (18) Toward a Positive Psychology. An appendix contains brief discussions of questions generated by a positive approach to psychology in the areas of learning; perception; emotions; motivation; intelligence; cognition and thinking; clinical, animal, and social psychology; and personality. There is a 331-item bibliography. Name and subject indexes are included. **(77)**

McCLELLAND, DAVID C. **The achieving society.** Princeton, N.J.: D. Van Nostrand Company, 1961. 512 pp.

This study isolates certain psychological factors and demonstrates rigorously, by quantitative scientific methods, that these factors are generally important in economic development. The primary purpose of the book is to contribute to an understanding of why some men concentrate on economic activities and are conspicuously successful at them. Chapters are: (1) Explaining Economic Growth; (2) The Achievement Motive: How It Is Measured and Its Economic Effects; (3) Achieving Societies in the Modern World; (4) Achieving Societies in the Past; (5) Other Psychological Factors in Economic Development; (6) Entrepreneurial Behavior; (7) Characteristics of Entrepreneurs; (8) The Spirit of Hermes; (9) Sources of Need for Achievement; and (10) Accelerating Economic Growth. *Ten pages of references* are included. Appendices are: (1) Representative Stories from Children's Readers in Various Countries; (2) Motive Scores and Other-Directedness Rank by Country Based on Children's Stories; (3) Values Coding System for Children's Stories; (4) Comparative Validity of Verbal and Graphic Measures of Need for Achievement in Four Countries; (5) Codes and Scores from the Cross-Cultural Study of Preliterate Tribes; (6) Questionnaire used in the Four-Country Study of Adolescent Boys and Their Mothers; and (7) Questionnaire and Motive Scores in the Cross-Cultural Study of Businessmen and Professionals. The book is indexed. **(78)**

McCLELLAND, DAVID C., JOHN W. ATKINSON, RUSSEL A. CLARK and EDGAR L. LOWELL. **The achievement motive.** New York: Appleton-Century-Crofts, 1953. 384 pp.

"This book contains a summary of research on the achievement motive conducted mainly at Wesleyan University during the period January 1, 1947, to January 1, 1952, under the continuous moral and financial support of the Office of Naval Research." It attempts to summarize the results of five years of intensive research into the nature of achievement motivation. Its purpose is twofold: (1) to bring together the many diverse findings accumulated in an attempt to develop some kind of a theory that would at least begin to put them in order; and (2) to make available to other investigators an instrument for measuring human motivation. Chapter titles are: Toward a Theory of Motivation; Arousing the Achievement Motives and Obtaining Imaginative Stories; Analysis of Imaginative Stories for Motivational Content; Effects on Fantasy of Arousing Achievement Movitation; General Applicability of the *N* (need for) Achievement Scoring System; The Measuring Instrument; Relation of *N* Achievement Score to Behavior; Origins of Achievement Motivation; and Review. The three appendices are: (1) Illustrative Four-Story Records from Thirty Subjects; (2) Scoring for the Illustrative Stories; and (3) Pictures and Verbal Cues used to Elicit Stories. A bibliography of *N* achievement titles and a reference and author index are included. **(79)**

McINTOSH, ROBERT W. **Employee motivation and work incentives in the service industries** (Extension bulletin 483, recreation and tourism series). East Lansing: Michigan State University, Cooperative Extension Service, 1966. 6 pp.

Practical guides for developing more productive and better satisfied employees include use of the team approach and specific incentive awards systems. *(USCSC 1, edited)* **(80)**

MYERS, M. SCOTT. Who are your motivated workers? **Harvard business review** 42:1, January-February 1964. pp. 73-88.

A 1961-1962 study at Texas Instruments clearly points out that the factors in the work situation which motivate are different from the factors that dissatisfy. Motivation stems from the challenge of the job through such factors as achievement, responsibility, growth, advancement, work itself, and earned recognition. Dissatisfactions spring from factors peripheral to the task (such as work rules, titles, and fringe benefits). Effective job performance depends on the fulfilment of both motivation and maintenance needs. Maintenance needs involve physical environment, social relationships, status, orientation, security, and economic provisions. The supervisor's role is (1) to provide conditions of motivation, and (2) to satisfy maintenance needs. The motivation-maintenance theory helps the company achieve its goals by providing opportunities for employees to achieve personal goals. **(81)**

MYERS, M. SCOTT and EARL D. WEED, JR. Behavioral change agents: a case study. **Management and personnel quarterly** 6:3, Fall 1967. pp. 12-19.

A 1962 motivation research project at Texas Instruments concluded that the integration of involvement and personal commitment resulted in productivity increase. Employees benefited immediately from more meaningful work and, furthermore, earned more in profit-sharing funds as productivity increased. Job satisfaction, in terms of more interest in the work itself, achievement, and fewer personnel problems, was noted by operating managers as a direct consequence of employee involvement in the management of their work. One condition favoring positive change is a corporate goal-setting system which enables managers to support company goals through a hierarchy of objectives, strategies, and tactical action programs which, when properly implemented, provide employees at every organizational level with a meaningful responsibility. A second condition is the application of a management philosophy which includes respect for the individual, high performance expectations, opportunity to influence and set goals, freedom to act, encouragement of technical and managerial innovation, and a merit compensation system. Ingredients for behavioral change in any organization include: (1) a clear-cut, workable theory of motivation; (2) a climate that encourages management innovation; (3) managers willing and able to act aggressively and experimentally in testing the improvement possibilities defined by behavioral theory; and (4) a personnel staff psychologically oriented to provide the direction, stimulation, and buffer needed in the change process. **(82)**

OXLEY, G. M. and GENEVIEVE G. OXLEY. Expectations of excellence. **California management review** 6:1, Fall 1963. pp. 13-22.

The use of expectations as a motivational device and as a means of setting standards within the top management group of organizations is discussed. Properly communicated expectations, it is maintained, will influence the behavior of production and clerical workers as well as of vice-presidents and staff experts who maintain professional independence. Methods of communicating expectations, from explicit statement to communication by example, are reviewed. Twenty-eight references are included. **(83)**

PATTON, ARCH. Executive motivation; how it is changing. **Management review** 57:1, January 1968. pp. 4-20.

The author sees key components in changing motivation programs as including changing the physical and psychological environment, increasing job excitement through setting high goals, frequent changes in assignment, better use of performance appraisal, and application of a new three-track compensation system. *(USCSC 1, edited)* **(84)**

Psychoanalysis and education. **The Reiss-Davis Clinic Bulletin.** Los Angeles: Reiss-Davis Clinic for Child Guidance. Annual issue.

Each year a special issue of the *Bulletin*, edited by Rudolf Ekstein, Ph.D., and Rocco L. Motto, M.D., is devoted to the relationship between psychoanalysis and education. Contents of issues published to date are:

Vol. 1:1 Spring 1964	Foreword, by Fritz Redl; Introduction, by R. L. Motto; Psychoanalysis and Education–An Historical Account, by Rudolf Ekstein and R. L. Motto; The Boundary Line Between Education and Psychotherapy, by Rudolf Ekstein; The Learning Process: From Learning for Love to Love of Learning, by Rudolf Ekstein; Psychoanalysis and Education–The Emergence of a New Collaboration, by R. L. Motto, Bernard Bail, Rudolf Ekstein, and Arthur Malin.
Vol. 2:1 Spring 1965	Foreword, by G. H. J. Pearson; Introduction, by Rudolf Ekstein and Rocco L. Motto; "It Hurts Me More Than It Hurts You"–An Approach to Discipline as a Two-Way Process, by E. James Anthony; A Tribute to Anne Sullivan Macy, A Great Teacher of Discipline, by Rudolf Ekstein; The School's Role in Discipline, by Sybil K. Richardson; Some Reflections on the Problem of Discipline, by George Sheviakov; Management of Discipline Problems in Normal Students, by Fritz Redl.
Vol. 3:1 Spring 1966	Introduction, by Rudolf Ekstein and Rocco L. Motto; Three Great Psychoanalytic Educators, by Edith Buxbaum; J. C. Hill's Psychoanalytic Contributions to Teaching, by Rudolf Ekstein; The Unconscious Mind in Teaching, by J. C. Hill; Psychoanalytic Notes on the Function of the Curriculum, by Rudolf Ekstein.
Vol. 4 Spring 1967	Introduction, by Rudolf Ekstein and Rocco L. Motto; Lili E. Peller's Psychoanalytic Contributions to Teaching, by Rudolf Ekstein; Psychoanalysis and Public Education, by Lili E. Peller; Who Owns the School in Our Changing Society?, Albert J. Solnit; Task and Conflict, by Rudolf Ekstein; Further Thoughts on the Unconscious Mind in Teaching, by J. C. Hill; Play and Mastery, by Maria Piers.
Vol. 5 Spring 1968	Introduction, by Rocco L. Motto and Rudolf Ekstein; Willi Hoffer's Contribution to Teaching and Education, by Rudolf Ekstein; How Can the Educational Process Become a Behavioral Science?, by Lawrence S. Kubie; The Influence of the Curriculum and Teaching on the Development of Creativity, by Ralph Tyler; The Unconscious Mind in Teaching, III, by J. C. Hill; Psychoanalysis and Education: From Prevention of Emotional Disorders to Creative Learning and Teaching, by Rudolf Ekstein.

[Located too late for indexing.]

RUSH, HAROLD M. F. The language of motivation. **Suggestion system quarterly** 3:4, Winter 1967. pp. 14-15, 24-28.

The author offers a shorthand definition of motivation: "Individual, internally generated behavior designed to fill a purpose–the individual's purpose." He discusses its various facets: the hierarchy of needs, belongingness and identification, commitment and involvement, self-actualization, supportive relationship. He believes that behavioral scientists would maintain that the aggregate of these concepts is what management is seeking when it speaks of creating the climate for individual growth: the climate for motivation. *(USCSC 1, edited)* **(85)**

SHOSTROM, EVERETT L. **Man, the manipulator; the inner journey from manipulation to actualization.** Nashville, Tenn.: Abingdon Press, 1967. 256 pp.

"A *manipulator* may be defined as a person who exploits, uses, and/or controls himself and others as things in certain self-defeating ways. While every man is to some degree a manipulator. . . , modern humanistic psychology suggests that out of these manipulations we can develop the positive potential which Abraham Maslow and Kurt Goldstein call 'self-actualizing.' The opposite of the manipulator is the *actualizor* (a rare bird in pure form) who may be defined as a person who appreciates himself and his fellow man as persons or subjects with unique potential–an expresser of his actual self. The paradox is that each of us is partly an actualizor, but we can continually become more actualizing" (from author's preface). The development and application of these concepts is indicated by part and chapter titles: Part I, The Human Choice–Manipulation or Actualization–(1) The Problem; (2) The Manipulator; (3) The Actualizor; Part II, The Goals of Actualization–(4) Contact vs. Manipulation; (5) Honestly Being Your Feelings; (6) Trusting Yourself in the Here and Now; (7) Freedom and Awareness; (8) Personal Control; Part III, Examples of Manipulation and Actualization–(9) Children and Parents; (10) Teen-Agers; (11) Lovers; Part IV, The Process of Actualization–(12) Husbands and Wives; (13) Profit vs. Persons; (14) Actualization Therapy; (15) From Manipulation to Actualization. There is a bibliography of books and articles and sources of further help through workshops and films. A name and subject index concludes the book. **(86)**

TEEVAN, RICHARD C. and BARRY D. SMITH. **Motivation.** New York: McGraw-Hill, 1967. 172 pp.

A programmed text on the subject at an elementary level is presented. Three specific questions form the underlying theme of the text: (1) Can most motives be classified into broad categories? That is, do certain kinds of motives have properties in common? (2) How do motives operate? (3) Are motives innate or are they acquired through experience? Chapters discuss in detail the partial answers that have been offered to these and other questions concerning motivation. The classification and operation of motives are first discussed, followed by a discussion of specific motives, moving from the relatively simple to the more complex motives. Research and various theories related to the problems covered are discussed. **(87)**

TEEVAN, RICHARD C. and ROBERT C. BIRNEY (eds.). **Theories of motivation in personality and social psychology: an enduring problem in psychology.** Princeton, N. J.: D. Van Nostrand Company, 1964. 186 pp.

Eight selections by various psychologists are included in this book and were chosen (1) to reveal the manner in which motivational questions are subject to conception from disparate points of view, and (2) to serve as a brief but comprehensive overview of the literature on motivation theory. The essays are: (1) Instincts and Their Viscissitudes, by Sigmund Freud; (2) The Hormic Psychology, by William McDougall; (3) The Functional Autonomy of Motives, by Gordon W. Allport; (4) Facts Which Support the Concept of Need or Drive, by Henry A. Murray; (5) Toward a Theory of Motivation, by D. C. McClelland, J. W. Atkinson, R. A. Clark, and E. L. Lowell; (6) Deficiency Motivation and Growth Motivation, by Abraham Maslow; (7) Motivation Leading to Social Behavior, by Leon Festinger; (8) The Role of the Psychological Situation in Determining the Direction of Human Behavior, by J. B. Rotter. **(88)**

UGELOW, ALVIN. **Motivation and the automation of training: a literature review** (Technical documentary report MRL-TDR-62-15). Wright-Patterson AFB, Ohio: Air Force Systems Command, Aerospace Medical Division, Behavioral Sciences Laboratory, March 1962. 30 pp.

A review is presented of the literature considered relevant to motivating students to participate in automated training. Topics reviewed include (1) teaching machines and the motivation problem, (2) knowledge of results, (3) praise and reproof, (4) competition, (5) task interruption, and (6) some contextual factors. *(HumRRO)* **(89)**

WEISER, HERBERT J. Motivating personnel. **MSU business topics** (Michigan State University) 15:4, Autumn 1967. pp. 21-32.

The author presents an overview of such theories of motivation as Theory X, Theory Y, Basic Needs, Self-Actualization, and the Scanlon Plan. He points out steps that an accounting firm or any other organization can take to develop achievement motivation in employees. *(USCSC 1, edited)* **(90)**

WHITSETT, DAVID A. and ERIK K. WINSLOW. An analysis of studies critical of the motivator-hygiene theory. **Personnel psychology** 20:4, Winter 1967. pp. 391-415.

"The purpose of this article will be to review the history of the theory, to present an oversimplified version of the complex Motivator-Hygiene theoretical formulation, and to evaluate studies reporting results which are in apparent disagreement with the theory." *(USCSC 1, edited)* **(91)**

WISPE, LAUREN G. A psychologist looks at motivational problems in training. **Occupational outlook quarterly** 9:3, September 1965. pp. 13-15.

A Manpower Administration psychologist declares that motivational factors may be completely different in people from culturally impoverished childhood homes than from those with middle-class upbringing. Especially significant is the absence or presence of a father. This points up a tremendous need for training in motivation-changing. *(USCSC 3, edited)* **(92)**

COMMUNICATION

BORDEN, RICHARD. **How to communicate ideas.** Montclair, N.J.: The Economic Press. 20 pp.

This booklet is condensed from a book by the author published in 1935. It contains his four-point formula for communication. Originally intended primarily for public speakers, it is considered applicable to every form of communication. The four steps discussed center around getting attention, appealing to interests of listeners, orderly presentation of concrete cases or examples as illustration, and soliciting some specific action response within the power of the listener to give. **(93)**

CAMPBELL, JAMES H. and HAL W. HEPLER (eds.). **Dimensions in communication; readings.** Belmont, Calif.: Wadsworth Publishing Company, 1965. 230 pp.

Readings are divided into four sections: conceptual frames, persuasion, language, and writing. All are directed toward an understanding of communication goals and techniques. *(USCSC 1, edited)* **(94)**

CHERRY, COLIN. **On human communication; a review, a survey, and a criticism.** New York: John Wiley & Sons, 1957. 333 pp.

This book was written as an introduction to the series "Studies in Communication" published jointly by the Massachusetts Institute of Technology and the publisher. It consists of a series of simple essays written in nontechnical language and intended for an audience with no specialized background in the subject. Chapter titles indicate contents: (1) Communication and Organization–an Essay; (2) Evaluation of Communicative Science–an Historical Review; (3) On Signs, Language, and Communication; (4) An Analysis of Signals, Especially Speech; (5) On the Statistical Theory of Communication; (6) On the Logic of Communication (syntactics, semantics, and pragmatics); (7) On Cognition and Recognition. References and an index are included. **(95)**

DUKER, SAM. **Listening bibliography.** New York: The Scarecrow Press, 1964. 211 pp. (revised edition, 1968, now available)

The increasing amount of expository writing and research on listening and its potential improvement through proper teaching prompted the development of this annotated bibliography. Its boundaries are indicated by areas *not* included: speech, audition, hearing, information theory, communication and communication theory, music listening, unavailable items, chapters on listening in textbooks and curriculum bulletins, and radio and television. All items included were personally examined by the compiler. It is emphasized that the annotations are *not* abstracts. **(96)**

EISENSON, JON, J. JEFFREY AUER and JOHN V. IRWIN. **The psychology of communication.** New York: Appleton-Century-Crofts, 1963. 394 pp.

This illustrated text presents a comprehensive treatment of the subject. Part and chapter titles describe the contents: I, The Nature, Origin, and Purpose of Speech–(1) The Nature of Speech; (2) The Oral Speech Code and its Origin; (3) The Functions and Levels of Speech; II, Basic Psychological Principles–(4) The Nervous Mechanism and Speech; (5) Affective Behavior (Emotion) and Speech; (6) The Psychology of Language Learning; (7) How Linguistic Forms Acquire Meaning; (8) Speech and Thought; III, The Communicative Process–(9) The Communicative Process: Scheme and Design; (10) Communication Among Animals, by William Etkin; (11) Information Theory and the Psychology of Speech, by Milton Valentine; IV, Applications: The Individual–(12) The Development of Speech in the Child: First Sounds to First Words; (13) Language Development in the Child; V, Applications: Group Communication–(14) Basic Psychological Factors in Group Communication; (15) Psychology of Group Discussion; (16) Psychology of Public Address; (17) Psychology of Radio and Television; (18) Psychology of Stage Fright; VI, Personality and Speech–(19) Concepts of Personality; (20) Verbal Behavior of Not-So-Well-Adjusted Personalities; (21) Personality Disturbances and Speech. An index is included. **(97)**

GIBB, JACK R. Defensive communication. **ETC: A review of general semantics** 22:2, June 1965. pp. 221-229.

Reducing defensiveness in interpersonal relationships is necessary for fundamental improvements in communication. Defensive behavior is that behavior which occurs when an individual perceives or anticipates threat in the group. The ways in which aroused defensiveness interferes with communication, thus making it difficult and sometimes impossible for anyone to convey ideas clearly and to move effectively toward the solution of therapeutic, educational, or managerial problems are discussed. Categories of communicative behavior characteristic of supportive and defensive climates in small groups are discussed in the main body of the paper under the following headings: (1) Evaluation–Description; (2) Control–Problem Orientation; (3) Strategy–Spontaneity; (4) Neutrality–Empathy; (5) Superiority–Equality; and (6) Certainty–Provisionalism. **(98)**

GREENHILL, LESLIE P. Communication research and the teaching-learning process. **Journal of medical education** 38:6, June 1963. pp. 495-502.

The highlights of recent research in communication are reviewed, and the implications for medical education, both undergraduate and postgraduate, are discussed. Categories of research discussed are: Instructional Film Research; Instructional Television; Combination of Media; New Areas for Research (Course Development; The Systems Approach to the Management of Learning; The Assessment of Learning; Learning Resources Centers; Interaction of the Learning Process; Faculty Development; Learning Research Centers). **(99)**

HANEY, WILLIAM V. **Communication and organizational behavior: text and cases.** Revised edition. Homewood, Ill.: Richard D. Irwin, Inc., 1967. 533 pp.

This text was designed for use in college courses, management-development seminars, supervisory training programs, adult education classes, and individual self-study. The book does not deal with business and professional speaking and writing but, rather, focuses on what happens inside a communicator before and as he talks, writes, or otherwise communicates, and after he listens or reads. Organizational behavior is also discussed, and that it and communication are inextricably interwoven is a major thesis of the opening chapters. There are four major parts: Part I deals with the organizational setting in which communication occurs. Part II discusses the behavioral basis of the communicative act with special reference to the roles that perception and motivation play in communication. A basic model of communication is detailed in Chapter 5, "The Process of Communication." The model describes communication as a serial process involving the phases of encoding, sending, medium, receiving, and decoding. Each chapter in Part III deals with one or more "patterns of miscommunication" that arise in the encoding and/or decoding phases. The usual chapter format in Part III includes a definition of the miscommunication pattern or patterns, the range and types of their consequences, some of their probable causes, and, finally, the suggestion of techniques for correcting them and preventing their recurrence. Part IV presents an overview of the material covered and an extensive bibliography. **(100)**

HARRIS, JEROME J. Survey of medical communication sources available for continuing physicians' education. **Journal of medical education** 41:8, August 1966. pp. 737-755.

The study surveys the communication services or sources available to physicians for continuing medical education, and it evaluates their worth or shortcomings. A review of studies already conducted concludes that very little formal or informal training is obtained by most physicians after they have gone into practice. Major studies reveal that physicians acquire most of their information from detailmen, journals, direct mail, and colleagues, in that order, rather than from formal education sources. A discussion of the various sources is presented along with lists of books and periodicals where appropriate. The categories discussed are: Reading as a Source of Information; Periodicals (types of journals, national journals, utilization of material); Commercial Sources (direct mail, detailing); Pharmacists and Colleagues; Meetings, Conventions, and Exhibits; Formal Post-Graduate Education; Informal Miscellaneous Sources; Recordings by Subscription; Additional Audio-visual Services; and Noncommercially Sponsored Educational Programs. References are included. **(101)**

HARTMAN, FRANK R. A behavioristic approach to communication: a selective review of learning theory and a derivation of postulates. **AV communication review** 11:5, September-October 1963. pp. 155-190.

The theory and research of behaviorism, including Skinner's theory of verbal behavior, the verbal learning theory of interference and facilitation, and the meditation process, are reviewed, and principles applicable to communications are discussed. The available empirical evidence of behaviorism, consisting primarily of conditioning experiments on lower animals and verbal learning experiments on human subjects, is also reviewed. An attempt is made to extrapolate the findings of behaviorism to applied communication, using the following arguments to justify the extrapolation: (1) learning problems translate easily into communication problems; (2) learning research has been very extensive, resulting in a large body of empirical findings and in procedural refinements and sophistication in the kind of question posed; it would be time-consuming and expensive for communication research to plow the same ground; (3) main issues which can be explained through learning research cannot be duplicated in communication research because there are no techniques sufficient for controlling the relevant variables at the more complex level; and (4) many of the principles derived from behavioristic learning research find confirmation in the rules of thumb of applied communications. The article concludes with an outline of 28 "Tentative Findings for Communication" extrapolated from the discussion of behaviorism. A list of 104 references is included. **(102)**

HEAVISIDE, G. C. The principles of communication. **Personnel management** 48:377, September 1966. pp. 144, 147-148, 150-151.

The author identifies and discusses several yardsticks for designing and measuring effective communications: intention, attention, perception, retention, and participation. *(USCSC 1, edited)* **(103)**

HOWE, REUEL L. **The miracle of dialogue**. New York: The Seabury Press, 1963. 154 pp.

The contents of the author's lectures at the Episcopal Theological School, Cambridge, Massachusetts, have been revised and expanded and are presented here "with the end in view of making them available and of interest to anyone who is concerned with communication. All of us, in one way or another, are trying to communicate with ('get into significant touch with') someone, and all of us, to some degree, are baffled by the failure of our attempts" (from the author's preface). The miracle of dialogue is that "it can bring relationship into being, and it can bring into being once again a relationship that has died." This thesis, with examples, is discussed in chapters entitled: (1) The Importance of Dialogue; (2) The Barriers to Communication; (3) From Monologue to Dialogue; (4) The Purpose of Dialogue; (5) The Participants in Dialogue; (6) The Dialogical Crisis; (7) The Fruits of Dialogue; (8) Dialogue and the Tasks Ahead. Implications for education, religious institutions, and international relations are discussed in the final chapter, as are qualities that characterize the dialogical teacher. There is an index. **(104)**

KAISER ALUMINUM AND CHEMICAL CORPORATION. Communications (entire issue). **Kaiser Aluminum news** 23:3, 1965. 39 pp.

"The cooperation that makes human society possible is almost wholly dependent on the skill with which we communicate." This issue is intended to stimulate thinking about how we communicate and how we might try to improve the way we do it. A variety of color illustrations demonstrate points in the text. (Drawings by Saul Steinberg for the *New Yorker* are included.) Multiple copies of the booklet are available from the International Society for General Semantics, San Francisco, along with a bibliography of sources used by the editor of *Kaiser News* in preparing this issue. Section headings indicate content and organization: How Is It We Know Something to Communicate? (perception); How Do We Create Symbols?; In Search of the Meaning of Meaning (semantics); The Human Transaction (communication process or system); As a Matter of Fact (facts vs. inferences); The Trouble with Is, Is Is (problems in unqualified use of the word "is"); It's a Mad, Mad Maze (importance of listening to people, not just words); The Big Rock Candy Mountain (problems of non-differentiation and oversimplification in categorizing and judging); and This Is the Beginning–Not the End (a re-emphasis on need to understand the communication process and some suggestions for improving individual skill). **(105)**

KNAPP, MARK L. and CARL E. LARSON. Management and labor speech communication; some comparisons of training and research studies. **Training and development journal** 21:12, December 1967. pp. 28-32.

This report of three studies of management and union officials focuses on five areas: research involvement in speech communication, needed research, types of training offered, perceived importance of this training, and sources of instructors. *(USCSC 1, edited)* **(106)**

LIPPITT, GORDON L. **Quest for dialogue** (1966 Rufus Jones lecture). Philadelphia: Friends General Conference, Religious Education Committee, 1966. 46 pp.

The author explores the many factors involved in the quest for dialogue and examines what each individual can do to improve his understanding and communications. The booklet contains a study guide and a selected bibliography. *(USCSC 1, edited)* **(107)**

LIVINGSTON, HOWARD. Can the effects of general semantics be measured? **ETC: a review of general semantics** 23:2, June 1966. pp. 254-258.

The procedures and results of an investigation of the effects of lessons in general semantics on the critical reading competence of secondary school students are reported. The purpose of the investigation was to compare the changes in critical reading of a group of students who received instruction in general semantics with a similar group of students who did not. The Watson-Glaser Critical Thinking Appraisal was used to measure critical reading ability in a developmental reading course. Results showed that the group receiving instruction in general semantics made a significantly greater gain than did the control group, and it is concluded that the gain was attributable to the experimental factor – the lessons in general semantics – rather than to any other factor. **(108)**

McLAUGHLIN, TED J., LAWRENCE P. BLUM and DAVID M. ROBINSON. **Communication.** Columbus, Ohio: Charles E. Merrill Books, 1964. 499 pp.

The book emphasizes the unity of communicative elements within a diversity of forms. It considers how man uses communication to satisfy his basic psychological needs, explains the need for proficiency in person-to-person communications in both speaking and writing, and discusses special management problems of communicating with groups outside the management group itself. *(USCSC 1, edited)* **(109)**

McLUHAN, MARSHALL. **Understanding media: the extensions of man.** New York: McGraw-Hill, 1964. 364 pp.

During the mechanical ages the western world extended the human body in space. Today, through electric technology, we have extended man's central nervous system, abolishing both time and space on earth. Such extensions affect man's whole psychic and social complex. Today action and reaction "occur almost at the same time . . . but we continue to think in the old, fragmented space and time patterns of the pre-electric age." This thesis is developed in Part I which contains chapters entitled: (1) The Medium is the Message; (2) Media Hot and Cold; (3) Reversal of the Overheated Medium; (4) The Gadget Lover: Narcissus as Narcosis; (5) Hybrid Energy: Les Liaisons Dangereuses; (6) Media as Translators; (7) Challenge and Collapse: The Nemesis of Creativity. Part II contains chapters discussing the extension media indicated by titles and their psychic and social consequences: (8) The Spoken Word: Flower of Evil? (9) The Written Word: An Eye for an Ear; (10) Roads and Paper Routes; (11) Number: Profile of the Crowd; (12) Clothing: Our Extended Skin; (13) Housing: New Look and New Outlook; (14) Money: The Poor Man's Credit Card; (15) Clocks: The Scent of Time; (16) The Print: How to Dig It; (17) Comics: Mad Vestibule to TV; (18) The Printed Word: Architect of Nationalism; (19) Wheel, Bicycle, and Airplane; (20) The Photograph: The Brothel-Without-Walls; (21) Press: Government by News Leak; (22) Motorcar: The Mechanical Bride; (23) Ads: Keeping up with the Joneses; (24) Games: The Extensions of Man; (25) Telegraph: The Social Hormone; (26) The Typewriter: Into the Age of the Iron Whim; (27) The Telephone: Sounding Brass or Tinkling Symbol?; (28) The Phonograph: The Toy that Shrank the National Chest; (29) Movies: The Reel World; (30) Radio: The Tribal Drum; (31) Television: The Timid Giant; (32) Weapons: War of the Icons; (33) Automation: Learning a Living. There is a 47-item bibliography entitled Further Readings for Media Study. **(110)**

McLUHAN, MARSHALL and QUINTIN FIORE. **The medium is the message, an inventory of effects** (Coordinated by Jerome Agel). New York: Bantam Books, 1967. 160 pp.

"The medium, or process, of our time – electric technology – is reshaping and restructuring patterns of social interdependence and every aspect of our personal life. . . . Electric technology fosters and encourages unification and involvement. It is impossible to understand social and cultural changes without a knowledge of the workings of media." This thesis is examined in the text and illustrated with numerous accompanying photographs, drawings, and print variations. **(111)**

MILLER, GEORGE A. **The psychology of communication: seven essays.** New York: Basic Books, 1967. 197 pp.

Though the essays in this book treat a variety of topics – from cybernetics and automation to psychical research and the supernatural – their larger concern is with the problems of scientific psychology and communication theory and with an attempt to formulate a psychological conception of man as an information-gathering, information-processing system. The essay titles are: (1) Information and Memory; (2) The Magical Number Seven, Plus or Minus Two: Some Limits on Our Capacity for Processing Information; (3) The Human Link in Communication Systems; (4) Concerning Psychical Research; (5) The Psycholinguists; (6) Computers, Communication, and Cognition; (7) Project Grammarama. An index is included. **(112)**

NICHOLS, RALPH G. **Listening is a 10-part skill** (Reprinted from *Nation's Business,* July 1957). Washington, D.C.: Nation's Business. 4 pp.

Many businesses now include listening training in their regular training programs with good results. A study of 100 best and 100 worst listeners in a University of Minnesota freshman class revealed 10 guides to improved listening which can be used to analyze personal strengths and weaknesses. Specific suggestions for capitalizing on the difference in thought speed and speech speed are emphasized. **(113)**

PIERCE, J. R. **Symbols, signals, and noise: the nature and process of communication.** New York: Harper & Brothers, 1961. 305 pp.

This book on communication theory presents a comprehensive review of the field. Mathematical illustrations are used widely in explanation of the more complex aspects of communication theory. The chapters are: (1) The World and Theories; (2) The Origins of Information Theory; (3) A Mathematical Model; (4) Encoding and Binary Digits: (5) Entropy; (6) Language and Meaning; (7) Efficient Encoding; (8) The Noisy Channel; (9) Many Dimensions; (10) Information Theory and Physics; (11) Cybernetics; (12) Information Theory and Psychology; (13) Information Theory and Art; (14) Back to Communication Theory. An appendix on mathematical notation, a glossary, and an index are included. **(114)**

RUESCH, JURGEN and WELDON KEES. **Nonverbal communication.** Berkeley and Los Angeles: University of California Press, 1959. 205 pp.

The theoretical and systematic study of communication has serious limitations inasmuch as scientific thinking and reporting are dependent upon verbal and digital language systems, whereas human interaction, in contrast, is much more related to nonverbal systems of codification. A number of nonverbal ways in which people attempt to communicate with one another are explored. With the aid of still photography, the informal and often spontaneous methods of communication are presented here. Part and chapter titles indicate contents: Part I, The Frame of Reference – (1) Modern Theories and Methods; (2) Biology and Culture as Two Determinants of Nonverbal Communication; (3) The Varieties of Nonverbal Languages; Part II, Message Through Nonverbal Action – (4) Nonverbal Expression; (5) The Informative Value Movement; (6) People Alone; (7) The Role of Context in the Interpretation of Action; (8) People Together; Part III, Message Through Object and Picture – (9) Codification in Material Terms; (10) Object, Word, and Number; (11) The Language of Identification and Recognition; (12) Appeal and Social Control through Material Things; (13) The Organization of the Material Environment as Personal Expression; Part IV, The Language of Disturbed Interaction – (15) Social Conflict and Stress; (16) Language and Psychopathology; (17) Disturbances of Emotion and Their Communicative Effects; (18) Disturbances of Perception and Evaluation; (19) Art, Communication, and Mental Illness; and Part V, Summary – (20) Toward a Theory of Nonverbal Communication. References and an index are included. **(115)**

SCHRAMM, WILBUR. **The science of human communication: new directions and new findings in communication research.** New York: Basic Books, 1963. 158 pp.

Originally broadcast in a special series by the Voice of America radio network, the eleven essays presented here are meant to serve as an introduction to the problems, the findings, and some of the scholars in research on human communication. The contents are: (1) Communication Research in the United States, by Wilbur Schramm; (2) The Theory of Cognitive Dissonance, by Leon Festinger; (3) An Exploration into Semantic Space, by Charles E. Osgood; (4) The New "Scientific" Rhetoric, by Nathan Maccoby; (5) Personality as a Factor in Susceptibility to Persuasion, by Irving L. Janis; (6) The Social Effects of Mass Communication, by Joseph T. Klapper; (7) The Diffusion of New Ideas and Practices, by Elihu Katz; (8) Mass Media and Personal Influence, by Paul Lazarsfeld and Herbert Menzel; (9) The Effects of Television on Children, by Eleanor E. Maccoby; (10) The Effect of Communication on Voting Behavior, by Ithiel de Sola Pool; (11) Teaching Machines and Programmed Instruction, by Arthur A. Lumsdaine. **(116)**

THAYER, LEE. **Communication and communication systems in organization, management, and interpersonal relations.** Homewood, Ill.: Richard D. Irwin, Inc., 1968. 375 pp.

The scope of the book, as indicated by the title, is comprehensive and broadly based. The purpose is to bring into focus significant recent changes in ideas, concepts, and perspectives regarding the subject. Due to the nature of these changes, an attempt has been made to completely reformulate the conceptual framework of communication and communication systems in the indicated areas. Suggestions for further reading are included in each chapter. Chapter 19 also has bibliographies and commentaries on contributions from a wide variety of specialized fields on communication theory and research. Author and subject indexes are included. Part and chapter titles describe the contents: Part I, On the Nature and Dynamics of Human Communication – (1) The Study of Communication: Some Basic Premises;

(2) People, Communication, and Organization: Some Basic Perspectives; (3) On the Nature of Communication: I; (4) People, Behavior, and Communication: On Being Communicated With; (5) People, Behavior, and Communication: On the Motivation and Control of Human Behavior; (6) People, Behavior, and Communication: Some Interpersonal Factors; (7) People, Behavior, and Communication: Some Organizational and "Management" Factors; (8) On the Nature of Communication: II; Part II, Communication, Message, and Communication System: Qualities and Characteristics – (9) Communication: Effectiveness; (10) Communication: Economy; (11) Messages: Comprehensibility, Validity, and Utility; (12) Communication System: Efficacy; Part III, The Functions of Communication – (13) The Information Function; (14) Command and Instructive Functions; (15) Influence and Persuasive Functions; (16) Integrative Functions; Part IV, Technology and Techniques – (17) The Technology of Communication; (18) On Communication Methods and Techniques; Part V, Theory and Research: Problems and Issues – (19) Communication Theory and Research: Tributaries and Trends; (20) Problems and Issues. **(117)**

THIS, LESLIE E. **The leader looks at communication** (Looking Into Leadership series). Washington, D.C.: Leadership Resources, Inc., 1961. 11 pp.

Six questions which leaders often ask about communication are cited as evidence of its importance to groups and organizations. Problems with three widely accepted theories of communication are briefly discussed: the "decibel" theory (loudness and frequency as key factors in communication); the "sell" theory (the total burden is on the communicator or sender); and the "minimal information" theory (the receiver isn't too interested in what the leader is communicating anyway). The complexity of the communication process is discussed in terms of filters and barriers which distort messages: verbal and nonverbal factors, selective inattention, the nature of the organization, defects in the formal network of communication, status and role ambiguities, language, personality, misunderstanding, and emotions and feelings. Results of research on one-way and two-way communication are summarized and some guidelines for improving communication are offered with respect to recognizing levels of interaction, dealing with specific barriers, and making self-appraisals. A briefly annotated 6-item bibliography is included. **(118)**

WAGNER, ROBERT W. **A galaxy of motion picture documents on communication theory and the new educational media** (Produced for the Department of Health, Education, and Welfare, U.S. Office of Education). Columbus, Ohio: Ohio State University Department of Photography, 1966. 82 pp.

This manual is an integrated part of a filmed instructional program designed for a wide audience with interest in communication theory, educational technology, perception, and the new educational media. Using a space-age analogy, the films are viewed as forming a galaxy of documents at the heart of which are 4 basic "planetary films" – I. *The Information Explosion;* II. *Perception and Communication;* III. *The Process of Communication;* and IV. *The Teacher and Technology.* These move from the simple to the complex, concrete to abstract, and each is composed of sequences designated as "Asteroid Films." These may be detached, used separately, and returned to original sequence. The segments for each of the 4 major films above are: I. *[The Information Explosion]* – Communication Revolution; Information Storage, Retrieval, Control; Communication in Government; Communication in Industry; Communication in the Professions; Media and Children; II. *[Perception and Communication]* – Sensory Learning; Theories of Perception; Perception Training; Intercultural Perception; Perception & Deprivation; Perception & Education; III. *[The Process of Communication]* – A Model of Communication; Theory of Communication; Industry Model; Military Model; Administration Model; Teacher Training Model; Computer Model; The Teacher as a Model of Communication; IV. *[The Teacher and Technology]* – Learning as Self Learning; History of Instructional Technology; Media & the Military; Media & the Humanities; Media & the Continuous Progress School; The Computerized School; Media & the Curriculum; Media & the Masses; The Instructional Resource Center; The School of Tomorrow; The Teacher of Tomorrow. Four supplementary in-depth films called satellites are also available. *The Communication Revolution; Communications Conference; Teaching Machines and Sidney Pressey;* and *Music Research*. Among those participating in the films are Edgar Dale, I. Keith Tyler, James D. Finn, George Gerbner, and Kenneth Norberg. Part I of the manual describes the galaxy of films concept; Part II suggests patterns of use and includes examples of the broad range of use of films designed in this manner; Part III is a background monograph on communication theory by Dr. Harbans Singh Bhola of India. **(119)**

WIENER, NORBERT. **The human use of human beings: cybernetics and society.** 2nd edition, revised. Garden City, N. Y.: Doubleday Anchor Books (paperbound), 1954. 199 pp.

This is an updated reprinting of the author's original book for laymen on the science of communication and control (cybernetics is the term coined by the author). Chapters are: (I) Cybernetics in History; (II) Progress and Entropy; (III) Rigidity and Learning: Two Patterns of Communicative Behavior; (IV) The Mechanism and History of Language; (V) Organization as the Message; (VI) Law and Communication; (VII) Communication, Secrecy, and Social Policy; (VIII) Role of the Intellectual and the Scientist; (IX) The First and the Second Industrial Revolution; (X) Some Communication Machines and Their Future; (XI) Language, Confusion, and Jam. The book is indexed. **(120)**

WILEY, J. BARRON. **Communication for modern management.** Elmhurst, Ill.: The Business Press, 1966. 327 pp.

"Today's educated person must know how to communicate in many different media and how to choose the most effective one for the particular situation. . . . A company may want to make use of the knowledge possessed by its own employees with regard to its products and company policies. These people may have only limited familiarity with the use of audio-visual materials in communication. They need information as to the medium that will best solve their communication problem and how to make the best use of that medium" (from author's foreword). This book attempts to cover the whole range of industrial communication using the audiovisual media and "is intended to serve as a guideline to the college student or the person just entering the audio-visual field. It will indicate to him the areas of communication which could take advantage of the increased efficiency which is made possible through the wise use of these media, and the various tools and techniques of communication, including the advantages, disadvantages, and problems involved in their planning, production and utilization." Bibliographies of references for more detailed information on each subject follow each chapter. Chapters and selected topics are: (1) Introduction (the nature of communication, what audiovisual materials are, results of research on their use in education, specific applications to business communication, types of audiovisual tools); (2) Employee Recruitment and Training; (3) Employee Relations; (4) Public Relations; (5) Sales and Promotion; (6) Reporting to Management; (7) Reporting to Stockholders; (8) Visualization of Information; (9) Photography; (10) Motion Pictures; (11) Slides and Filmstrips; (12) Overhead Projection; (13) Opaque Projection; (14) Flipsheets; (15) Audio Recording; (16) Exhibits; (17) Television; (18) Teaching Machines; (19) Facilities for Audio-Visual Utlization (need for proper facilities, location of the room, specific suggested facilities). There is a name and subject index. **(121)**

Wiley series on human communication. New York: John Wiley & Sons. Continuing.

Published volumes in this series include: *The Speech Writing Guide, Professional Techniques for Regular and Occasional Speakers,* by James J. Welsh; *Graphic Communication,* by William J. Bowman; *Personal Resume Preparation,* by Michael P. Jaquish; *Presenting Technical Ideas, a Guide to Audience Communication,* by W. A. Mambert; *Writing for Technical and Professional Journals,* by John H. Mitchell; *Managerial Control Through Communication, Systems for Organizational Diagnosis and Design,* by George T. Vardaman and Carroll C. Halterman; *Technical Correspondence, a Handbook and Reference Source for the Technical Professional,* by Herman M. Weisman. Additional titles in the series are planned to cover catalogs, annual reports, house organs, technical proposals, technical manuals, microdocumentation, speed reading, communications in research, engineering shorthand, audiovisual techniques, and other areas. **(122)**

SOCIOLOGY OF EDUCATION AND TRAINING*

BECKER, HOWARD S., BLANCHE GEER, EVERETT C. HUGHES, and ANSELM L. STRAUSS. **Boys in white; student culture in medical school.** Chicago: University of Chicago Press, 1961. 456 pp.

The research of a team of sociologists reported here attempted to answer such questions as: How do medical students feel about their training, their doctor-teachers, and the profession they are entering? Daily interviews and observations in classes, wards, laboratories, and operating theaters were conducted in search of answers. Part and chapter titles indicate organization of the publication. Part One, Background and Methods–(1) Boys in White; (2) Design of the Study; (3) Perspective, Culture, and Organization; (4) The University of Kansas Medical School: A Brief Description; Part Two, Student Culture in the Freshman Year–(5) The Long-Range Perspective: "The Best of All Professions"; (6) The Work of the Freshman Year; (7) The Initial Perspective: An Effort to "Learn It All"; (8) The Provisional Perspective: "You Can't Do It All"; (9) Interaction and Consensus: The Provisional and Final Perspectives; (10) The Final Perspective: "What They Want Us to Know"; A Note on the Sophomore Year; Part Three, Student Culture in the Clinical Years–(11) The Work of the Clinical Years; (12) The Responsibility and Experience Perspectives: The Problem and Its Setting; (13) The Assimilation of Medical Values by Students: The Responsibility and Experience Perspectives; (14) The Academic Perspective: Dealing with the Faculty; (15) Student Co-operation; (16) Students and Patients; (17) Student Autonomy; Part Four, Perspectives on the Future–(18) Student Perspectives on Styles of Practice: The Dilemma of Independence and Responsibility; (19) Student Perspectives on Internships; (20) Student Views of Specialties; (21) The Development of the Medical Student. The Appendix contains a reproduction of an interview guide used in the study. There is a name and subject index.

BLOOM, SAMUEL W. The sociology of medical education: some comments on the state of a field. **Milbank memorial quarterly** 43:2, 1965. pp. 143-184.

The objective of this review is to seek a broader and more complete view of the trends and issues that are discernible in the sociological study of medical education in the U.S. First, some of the origins of such research, both in medicine and sociology, are reviewed and a brief historical account is given of the major examples. Second, in the theoretical and empirical findings of the various researchers, it is asked what lines of convergence and disparity can be charted. What are the implications and guidelines for future research in the field?

HOROWITZ, MILTON J. **Educating tomorrow's doctors.** New York: Appleton-Century-Crofts, 1964. 264 pp.

Though research in medical education has been in the vanguard of professional-education developments in the areas of educational objectives and the teaching-learning process, much still needs to be learned about how any student becomes a physician and about how specific individuals develop. Experiences of about 20 students in the Western Reserve University School of Medicine were studied in light of this need. Though the number of students studied is small, the problems considered transcend the responses of a small number of individuals to a particular medical school, and the questions raised in regard to the case studies are relevant not only to this one school and to medical education, but also to all graduate and professional education. Some of the major questions raised and discussed are: Can different patterns of development be identified in students during the four years of medical school? What are they? How do medical students change? What change do they see in themselves? How do others see them? How can differences among students be described to include change associated with personal as well as professional growth? To what extent may students in a medical school be held responsible for their own learning? What are the specific challenges of medical education? Are they different from the challenges of other fields of study?

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* *This section was developed after the original indexing was done and too close to the publication deadline to be added to the index. The category was considered too important to omit.*

MERTON, ROBERT K., GEORGE G. READER and PATRICIA L. KENDALL (eds.). **The student physician–introductory studies in the sociology of medical education.** Cambridge, Mass.: Harvard University Press, 1957. 360 pp.

The focus of this selection of studies is on the educative process in the medical school, on the ways that its social structure, like that of other organizations, largely forms the behavior of its members and affects the making of the medical man. No attempt is made to appraise current medical curricula or to advocate changes in them. In the studies reported, the medical school is conceived as a social environment in which the professional culture of medicine is variously transmitted to novices through distinctive social and psychological processes. It is the aim of these studies to find out in detail how the aspiring medical student with his characteristic anticipation, fears, hopes and abilities, emerges as a socially certified physician, outfitted with a definition of his professional status, with attitudes toward that status, with a self-image, and with a set of professional values.

WALLER, WILLARD. **The sociology of teaching.** New York: Russell & Russell, 1961. 467 pp.

Originally published in 1932, this book is one of the pioneer textbooks in educational sociology. The work is a systematic application of the concepts of sociology and social psychology to the social phenomena of school life. The method employed in gathering and interpreting material was empirical and observational, the style is non-technical. There are 25 chapters divided into 6 major topics: I. Introduction; II. The School and the Community; III. Some Interpretations of Life in the School; IV. The Teacher-Pupil Relationship; V. What Teaching Does to Teachers; VI. Summary and Recommendations.

WEBSTER, THOMAS G. **Career decisions and professional self-images of medical students.** Working paper, Conference on Psychiatry and Medical Education, March 6-10, 1967, Atlanta, Georgia. To be published in Background papers for the 1967 Conference. Washington, D.C.: American Psychiatric Association, 1969. 70 pp.

This working paper reviews relevant information and research on career decisions and points up the areas which should be of special interest to psychiatry and behavioral science faculties in medical schools. Since the paper could not refer to all the data available in the literature relevant to career decisions of medical students, an effort was made to give at least one example of the many different types of relevant contributions: (1) statistical data on students and medical manpower which does not include direct responses from student informants regarding career decisions and related matters other than a statement of current occupational status, age, sex, geographic location, etc.; (2) surveys of career preferences, sociological data, MCAT and other measures of academic ability and performance, psychological and vocational tests and other data correlated with career preference and self-image; (3) personal interviews and direct observation of students with clinical type assessments relevant to the dynamics of career, student culture, professional identity, self-image and learning process; biography and fiction; (4) textbooks, theory, summaries, recruiting literature on careers, etc., usually without new data.

THE ADULT LEARNER–SOCIO-PSYCHOLOGICAL FACTORS

HAND, SAMUEL E. **A review of physiological and psychological changes in aging and their implications for teachers of adults** (Bulletin 71G-2). Tallahassee, Fla.: Florida State Department of Education, Division of Vocational, Technical, and Adult Education, April 1968. 31 pp.

Based on an examination of literature on aging, a composite review of the significant physiological and psychological changes that take place as a part of the normal aging process is presented, and the implications these changes have for adult education are discussed. The material is extensively supported by illustrative graphs and tables. A bibliography is included. **(123)**

HAVIGHURST, ROBERT J. and BETTY ORR. **Adult education and adult needs.** Chicago: Center for the Study of Liberal Education for Adults, 1956. 79 pp.

The report is a part of the Kansas City Study of Adult Life conducted by the University of Chicago Committee on Human Development and Community Studies, Inc., a Kansas City social agency. Chapter titles indicate contents: (1) The Wisdom of Maturity; (2) Adult Needs and Developmental Tasks; (3) Personal Motivation for the Achievement of Developmental Tasks; (4) Implications for Adult Education; (5) Qualities of an Effective Adult Education Program. A supplemental essay entitled "Adult Education for Our Time," by Robert Havighurst, is also included. **(124)**

JENSEN, GALE E. Socio-psychological foundations of adult learning. IN Hallenbeck, Wilbur C. (ed.). **Psychology of adults** (Adult Education Theory and Method). Washington, D.C.: Adult Education Association of the U.S.A., May 1963. pp. 20-30.

Three objectives are pursued in this paper: (1) to present an account of the basic dynamics of socio-psychological forces present in all formal adult instructional situations; (2) to provide an identification and definition of the socio-psychological interactions which take place between adults during formal instruction and which determine the kind of learning that will result; and (3) to present a set of principles for guiding or managing these socio-psychological interactions in ways which maximize the probabilities of achieving stipulated instructional objectives. **(125)**

KIDD, J. R. **How adults learn.** New York: Association Press, 1959. 324 pp.

Adult education has become extensive, but little has been done to apply psychological theories of learning to the teaching of adults. This book is a synthesis of theory of and experience in adult education. Chapters are: (1) Learning Throughout Life; (2) The Adult Learner; (3) Physical and Sensory Capacity; (4) Intellectual Capacities; (5) Feelings and Emotions; (6) Motivation; (7) Theories of Learning; (8) Some Fields of Practice; (9) The Environment for Learning–Forms and Devices; (10) The Teaching-Learning Transaction; (11) The Teacher in the Learning Transaction. Each chapter includes a summary, a list of references, and a list of suggested readings. The book is indexed. **(126)**

LITTLE, LAWRENCE C. (ed). **A bibliography of doctoral dissertations on adults and adult education.** Pittsburgh: University of Pittsburgh, Department of Religious Education, 1962. 82 pp.

This bibliography was prepared for a research seminar in adult education at the University of Pittsburgh. It contains titles of over 1,000 doctoral dissertations dealing with the experiences and needs of adults and with various types and patterns of adult education. **(127)**

LORGE, IRVING. The Adult learner. IN Hallenbeck, Wilbur C. (ed.). **Psychology of adults** (Adult Education Theory and Method). Washington, D.C.: Adult Education Association of the U.S.A., May 1963. pp. 1-9.

The learning characteristics peculair to the adult learner are discussed. Pursuing concepts set forth by Edward L. Thorndike in his *Adult Learning*, the study points up the distinction between learning rate as performance and learning ability as power or potential. It is agreed that though learning rate declines with age, learning ability does not necessarily decline. Factors affecting learning rate, such as speed of reaction, hearing, and seeing are analyzed and discussed. Based on statistics drawn from specialized intelligence testing, it is agreed that intelligence, as measured in terms of learning ability, does not regress with the age of the individual. Problems stemming from stereotypes about aging, crystallized attitudes, weak and meager interests, and the question of learning new interests are discussed in relation to adult learning and the teaching of adults. The conditions necessary for adult learning–the crucial point being that the learner himself sees that he is moving toward his goal–are posited and illustrated. A discussion on planning for adult learning–the primary premise being the fact of individual differences–and a brief view of prospects for adults conclude the article. **(128)**

POWELL, JOHN W. **Learning comes of age.** New York: Adult Education Association of the U.S.A., 1956. 235 pp.

This is a valuable contribution to theories of adult learning. "The adult seeking understanding does not want a classroom. He wants companions in the search for greater wisdom." *(USCSC 2, edited)* **(129)**

PROCTOR, ROBERT A. **Too old to learn?** Nashville, Tenn.: Broadman Press, 1967. 126 pp.

Adult education is discussed in its broad application to the spiritual development of the Christian individual. Brief background material on the psychology of learning is presented and the connection tween education and the Christian way of life is the primary theme developed. Key points are illustrated by case stories. Each chapter includes a selected reading list. The chapters are: (1) Learning Through the Ages; (2) Adults Can Learn; (3) Christian Growth–An Imperative; (4) The Obstacle Course; (5) Learning to Learn; (6) The Fellowship of Learning; (7) Commitment to Action; (8) Resources are Available; (9) The Challenge of Change. **(130)**

TUFTS COLLEGE. INSTITUTE OF APPLIED EXPERIMENTAL PSYCHOLOGY. Learning. IN ITS **Handbook of human engineering data.** 2nd edition. Port Washington, N.Y.: Office of Naval Research, Special Devices Center, n.d. Part IX, n.p.

A review of learning theory and research using college students and naval personnel as subjects is presented. The material is divided into chapters and sections: (I) Basic Concepts (Introduction); (II) Basic Processes of Learning (Acquisition, Retention, Transfer); (III) Characteristics of the Subject That Influence Learning (Motivation, The Learner); (IV) Training (Introduction, The Instructor, Methods of Training, Synthetic Trainers). Each section begins with an exposition of the subject, then presents the design, results, and conclusion in tabular and graphic formats of experiments conducted on the subject, and concludes with a bibliography of studies in the area. **(131)**

VERNER, COOLIE and JOHN S. NEWBERRY, JR. The nature of adult participation. **Adult education** 8:4, Summer 1958. pp. 208-222.

Since participation in any one activity is related to participation in all other social relationships, the problem of participation in adult education is considered here in conjunction with other phases of organized social life in the community. Of particular concern here is participation in formally organized structures whose patterns approximate the characteristic patterns of organized adult education. The study is divided into four main sections. After the introduction, the second section deals with participation in general, the primary aim being to help adult education to identify the characteristics of those who participate, which will enable them to find significant clues to the kinds of people not now involved in adult education who might become involved if conditions were favorable. Factors related to an individual's participation in formal organizations are investigated: static factors of socio-economic status; age and sex; family stage; differences in residence; influence of religion, race, and ethnic groups; and dynamic factors, or those which describe the relationship of the individual to the group. The third section relates the results of studies of participants in several different forms of adult education to data on general social participation given in the preceding chapter, including data on age, sex, educational levels, socio-economic status, educational groups, and residence. The programs discussed are the Cooperative Extension Service, public school adult education, junior college adult education, university education, university extension, correspondence study, and packaged programs. A final section is devoted to a discussion of the need to attract a more representative segment of the population to adult education and the concomitant need for new and different programs to meet their need. A bibliography is included. **(132)**

WELFORD, A. T. **Aging and human skill.** London: Oxford University Press, 1958. 300 pp.

The final report of the Nuffield Unit for Research into Problems of Aging which was attached to the Psychological Laboratory at Cambridge University from 1946 to 1956 is presented. The research unit attempted to study changes in performance from young adulthood to the middle years, to the sixties and seventies, and was thus concerned with aging rather than solely with old age. The results have shown that it is in the middle years that some of the most important age changes become noticeable and that it is often at the earlier ages that practical measures to deal with problems of old age may best be taken. Chapter titles indicate contents: (I) On the Nature of Age Changes in Performance; (II) On the Nature of Skill; (III) Methods of Studying Age Changes; (IV) Speed and Accuracy of Movement; (V) Some Implications of Slowing; (VI) Translation Processes; (VII) Perception; (VIII) Problem Solving; (IX) Learning and Memory; (X) Adaptibility; (XI) Concluding Remarks. **(133)**

LEARNING THEORY AND RESEARCH (GENERAL)

BORGER, ROBERT and A. E. M. SEABORNE. **The psychology of learning.** Baltimore: Penguin Books, 1966. 249 pp.

The various theories of learning, along with a sampling of supportive experiments, are reviewed in language understandable by students of psychology, teachers, and readers with little background in the study of psychology. The chapter titles describe the contents: (1) Introduction; (2) An Analysis of Simple Learning Situations; (3) Reinforcement and Motivation; (4) Theories of Learning; (5) The Development of Learning Capacity; (6) Behavior and Perceptual Organization; (7) Skill; (8) The Retention of Learned Material; (9) Concepts and the Use of Language; (10) Learning Theory and Abnormal Behavior; (11) Programmed Learning; (12) Learning and Education. Recommended readings and an index are included. **(134)**

BRUNER, JEROME S. **On knowing: essays for the left hand.** Cambridge, Mass.: The Belknap Press of Harvard University Press, 1962. 165 pp.

This collection of 10 occasional essays is divided into three parts. Essays in the first part deal with the act of knowing itself and how it is shaped and in turn gives form to language, science, literature, and art. Those in the second part deal with the nature of teaching and learning. Essays in the final part examine how one's conception of reality influences action and commitment. **(135)**

BUGELSKI, B. R. **The psychology of learning.** New York: Henry Holt and Company, 1956. 523 pp.

The author attempts to clarify the major issues in the controversial fields of learning and motivation. The contributions of individual theorists are presented in a manner comprehensible to the unsophisticated student, and major premises of each are considered as they apply to various questions related to the learning process. *(USCSC 2, edited)* **(136)**

DEESE, JAMES and STEWART E. HULSE. **The psychology of learning.** 3rd edition. New York: McGraw-Hill, 1967. 514 pp.

This edition has been reorganized to bring together into individual chapters processes rather than topics. Designed for undergraduate and graduate students in psychology, the text is also useful to those with no particular background in psychology. Early chapters stress the basic process of conditioning in learning, relying heavily upon information derived from the animal laboratory. Chapter 1 presents an introduction to the psychology of learning, the beginning sections offering review and the latter new material. Chapters 2 and 3 deal with reinforcement, the former emphasizing data and definition of basic concepts, the latter showing in a selective way how data have been handled by theory. Chapters 4-7 treat extinction, patterns of reinforcement, generalization and discrimination in the learning process, and the roles of emotion and motivation in that process. Chapter 5, on patterns of reinforcement, fits the traditional topics of partial reinforcement and schedules of reinforcement into a broader view of the effects of changing conditions of reward upon learning. Topics of specific concern to human learning are treated beginning with Chapter 8. Verbal learning and the learning of skills provide the major topics. Chapter 8 introduces problems and methods in the study of acquisition. Succeeding chapters deal with special theoretical problems such as mediation, transfer, retention, and concept learning. A final chapter built around the topic of learning skills introduces some matters of basic theoretical importance in the study of perceptual-motor skills. Chapters titles are: (1) Introduction; (2) Reinforcement and Learning; (3) Some Theoretical Issues; (4) Extinction; (5) Patterns of Reinforcement; (6) Generalization and Discrimination; (7) Learning and the Concepts of Emotion and Motivation; (8) The Experimental Analysis of Verbal Learning; (9) Theoretical Problems in Verbal Learning; (10) Transfer and Training; (11) Retention and Forgetting; (12) Concept Learning; (13) Problems in the Acquisition of Skill. References and an index are included. **(137)**

DEWEY, JOHN. **How we think; a restatement of the relation of reflective thinking to the educative process.** Boston: D. C. Heath & Company, 1933. 301 pp.

"No one can tell another person in any definite way how he *should* think, any more than how he ought to breathe or to have his blood circulate. But the various ways in which men *do* think can be told and can be described in their general features. Some of these ways are better than others .... The better way of thinking that is to be considered in this book is called reflective thinking .... " Part and chapter headings (and selected section topics) further indicate content and organization: Part I, The Problem of Training Thought–(1) What Is Thinking? (different meanings of thought, the central factor in thinking, phases of reflective thinking); (2) Why Reflective Thinking Must Be an Educational Aim; (3) Native Resources in Training Thought (curiosity, suggestion, orderliness); (4) School Conditions and the Training of Thought (methods and conditions, the influence of the habits of others, the influence of the nature of studies, the influence of current aims and ideals); Part II, Logical Considerations–(5) The Process and Product of Reflective Activity: Psychological Process and Logical Form; (6) Examples of Inference and Testing; (7) Analysis of Reflective Thinking; (8) The Place of Judgment in Reflective Activity; (9) Understanding: Ideas and Meanings; (10) Understanding: Conception and Definition; (11) Systematic Method: Control of Data and Evidence; (12) Systematic Method: Control of Reasoning and Concepts; (13) Empirical and Scientific Thought; Part III, The Training of Thought–(15) From the Concrete to the Abstract; (16) Language and the Training of Thought (language as the tool of thinking, the abuse of linguistic methods in education, the use of language in its educational bearings); (17) Observation and Information in the Training of Mind (the nature and value of observation, methods and materials of observation in the schools, communication of information); (18) The Recitation and the Training of Thought (false ideas about the recitation–reciting versus reflecting, the evils of passivity, the function of the recitation, the conduct of the recitation, the function of the teacher, appreciation); (19) Some General Conclusions (the unconscious and the conscious, process and product). There is an index. **(138)**

GAGNÉ, ROBERT M. Varieties of learning. IN HIS **The conditions of learning.** New York: Holt, Rinehart & Winston, 1965. pp.31-61.

Eight types of learning are presently distinguishable: (1) signal learning (classical conditioning); (2) stimulus-response learning (operant conditioning); (3) chaining (two or more stimulus-response connections); (4) verbal association (verbal chains); (5) multiple discrimination; (6) concept learning; (7) principle learning; and (8) problem solving. Each type begins with a different state of the organism and ends with a different capability for performance. Each variety depends on learning of the preceding type(s). The ideas of some earlier theorists are briefly discussed in relation to the author's theory. **(139)**

GINSBERG, ROSE, JOHN C. McCULLERS, JOHN J. MERYMAN, CALVIN W. THOMSON and ROBERT S. WITTE. **A review of efforts to organize information about human learning, transfer, and retention** (AMRL-TR-66-23). Wright-Patterson Air Force Base, Ohio: Air Force Systems Command, Aerospace Medical Division, Aerospace Medical Research Laboratories, March 1966.

"In this report, 14 efforts pertaining to organizing available information on human learning, transfer, and retention are summarized and evaluated on six criteria: behavioral significance of categories, scope, objectivity and reliability of categories, prognosis for the system, logical structures, and heuristic value of the system. Attention is also given to several other sources of guidance for organizing information on human learning. The review indicates at least six major approaches to a taxonomy of human learning. The bases for these different approaches are: (1) general or limited theoretical factors, (2) conditions of learning including the learner, (3) individual differences, (4) physical characteristics of learning tasks, (5) task characteristics in relation to empirical variables, and (6) task characteristics in relation to learning principles. In some cases the approaches are combined. The major conclusion is that although some contributions have been made to a general organization of information on human learning, intense and detailed efforts toward a comprehensive taxonomy are only in a preliminary formative phase. An empirically grounded and logically sound taxonomy of a wide range of learning situations will contribute substantially to the use of existing information and to the guidance of future research." *(ASTD)* **(140)**

HILGARD, ERNEST R. **A basic reference shelf on learning theory** (Series I. Using Educational Media: Guides to the Literature). Stanford, Calif.: Stanford University, Institute for Communication Research, ERIC Clearninghouse on Educational Media and Technology, September 1967. 17 pp.

The paper is divided into two main sections: I, Some "Principles" Potentially Useful in Practice–(1) Principles Emphasized Within the S-R Theory; (2) Principles Emphasized Within Cognitive Theory; and (3) Principles from Motivation and Personality Theory;

II, Approaches to Practical Problems Via Unified Theories–(1) Applications of Gutherie's Contiguous Conditioning; (2) Applications of Skinner's Operant Conditioning; (3) Drive-Reinforcement Theory Applied in the Miller-Dollard Version; and (4) The Applicability of Gagné's Hierarchical Model. A short bibliography on learning theory and its applications is included. **(141)**

HILGARD, ERNEST R. Methods and procedures in the study of learning. IN Stevens, S. S. (ed.). **Handbook of experimental psychology**. New York: John Wiley & Sons, 1951. pp. 517-567.

The chapter deals primarily with the problem of making learning situations quantifiable and presents experiments designed to measure learning behavior. An attempt is made to demonstrate that a single experiment can provide information about only limited aspects of learning and that an integrated plan of attack is needed to obtain comprehensive answers about learning. The relevance of the experiments to generalizations about learning is of secondary concern, that subject being more fully treated in other sections of the book in which the chapter appears. The eight main sections of the chapter are: (1) Typical Experiments: Situations Used with Both Lower Animals and Human Subjects (negative adaptation or habituation, classical conditioning, instrumental or operant conditioning, the puzzle box or problem box, delayed-reaction experiments, the discrimination experiment, the alley maze, the temporal maze, multiple choice, detour (insight) problems, reasoning problems, social learning); Situations Used Primarily or Exclusively in the Study of Human Learning (rote memorization and retention, verbal reasoning and concept formation, motor skills); (2) Classical Conditioned Response Experiments; (3) Experiments on Operant or Instrumental Conditioning; (4) Maze and Discrimination Experiments? (5) Experiments on Motor Skills; (6) Experiments on Memorization and Retention; (7) Learning Curves as Analytic Devices; and (8) Next Steps in the Study of Learning. A list of references is included. **(142)**

HILGARD, ERNEST R. and GORDON H. BOWER. **Theories of learning.** 3rd edition. New York: Appleton-Century-Crofts, 1966. 661 pp.

This book provides an orientation to the main influences on learning theory prominent in the first half of this century and rates how they are represented in contemporary experimentation and theorizing. Note is also taken of the newer developments not well coordinated with these by now "classical" theories, and in view of the importance of new technologies of instruction, attention is also given to them. The chapter titles indicate the contents: (1) The Nature of Learning Theories; (2) Thorndike's Connectionism; (3) Pavlov's Classical Conditioning; (4) Guthrie's Contiguous Conditioning; (5) Skinner's Operant Conditioning; (6) Hull's Systematic Behavior Theory; (7) Tolman's Sign Learning; (8) Gestalt Theory; (9) Freud's Psychodynamics; (10) Functionalism; (11) Mathematical Learning Theory; (12) Information Processing Models; (13) Neurophysiology of Learning; (14) Recent Developments: I, The Basic Conditions of Learning and Retention; (15) Recent Developments: II, Discrimination Learning and Attention; and (16) Learning and the Technology of Instruction. References and subject and author indexes are included. **(143)**

HILL, WINFRED F. **Learning: a survey of psychological interpretations**. San Francisco: Chandler Publishing Company, 1963. 227 pp.

This introductory survey of contemporary learning theories is designed to provide a fairly elementary but solid account of interpretations of learning for students in the psychology of learning and in educational psychology. Chapter 1, Understanding and Explaining Learning, provides an introduction to learning theory and its uses. Chapter 2, Contiguity Theories in the Connectionist Tradition, Chapter 3, Reinforcement Theories in the Connectionist Tradition, and Chapter 4, Cognitive Interpretations of Learning, deal with relatively nontechnical interpretations of learning oriented toward educational and other applications. Chapter 5, A Major Formal Connectionist Theory, and Chapter 6, Compromise and Emergent Theories, treat more technical interpretations. Chapter 7, Recent Developments, and Chapter 8, Learning Theory Present and Future, explore various aspects of current learning theory, highlighting unsettled issues and attempting to predict future trends. References, suggestions for further readings, an index of names, an index of topics, and a partial glossary are included. **(144)**

LAWSON, REED. **Learning and behavior.** New York: Macmillan, 1960. 447 pp.

This is a psychological study of the basis of learning, from simple habit formation to interactions of habits, and the acquisition of habits in complex situations. *(USCSC 2, edited)* **(145)**

Learning. **National Educational Association journal,** March 1963. pp. 20-32.

This is a special feature by the National Education Association magazine covering various aspects of learning. Articles are as follows: "What do We Know About Learning," by Goodwin Watson; "Roadblocks to

Learning," by Bruno Bettelheim; "Structure in Learning," by Jerome S. Bruner; "Learning to be Free," by Carl R. Rogers; and "Learning Through Inquiry," by J. Richard S. Suchman. *(ASTD)* **(146)**

McKEACHIE, W. J. Understanding the learning process. **Journal of English education** 51:5, February 1961. pp. 405-408.

This is a discussion of several principles and aspects of effective learning: practice, knowledge of results, activity, organization, and transfer. *(HumRRO)* **(147)**

MEDNICK, SARNOFF A. **Learning**. Englewood Cliffs, N.J.: Prentice-Hall, 1964. 118 pp.

The book is designed as a text for introductory college-level courses in the psychology of learning. Chapter titles and topic headings indicate the contents: (1) Some Examples of Research on Learning (How Learning Is Studied, Motivation, Learning and Higher Mental Processes); (2) The Language and Methods of Learning (The Use of Animals, What Is Learning?, The Language of Learning, The Importance of Reward); (3) Simple Learning: Classical Operant Conditioning; (4) Complex Habits (Serial Learning, The Major Phenomena of Serial Learning, The Learning of Concepts, The Acquisition of Skill); (5) Motivation and Learning (Motivation as an Energizer, Motivation as a Stimulus, Motivation as Something to Be Reinforced, The Need for Change and Rest); (6) Transfer of Training (What Transfer Is, Learning How to Learn); (7) Remembering and Forgetting (Measuring Memory, The Nature of Forgetting, Short-Term • Memory). A list of selected readings and an index are included. **(148)**

MELTON, ARTHUR W. (ed.). **Categories of human learning**. New York: Academic Press, 1964. 356 pp.

A 1962 symposium studied the interrelationships of seven different categories of human learning. Seven papers were presented; each was discussed. Titles were: Classical and Operant Conditioning, by David A. Grant; The Representativeness of Rote Verbal Learning, by Brenton J. Underwood; Probability Learning, by William K. Estes; Short-Term Memory and Incidental Learning, by Leo Postman; The Concept of the Concept, by Howard H. Kendler; Perceptual-Motor Skill Learning, by Paul M. Fitts; and Problem Solving, by Robert M. Gagné. Included also is Arthur W. Melton's "The Taxonomy of Human Learning: Overview." Each paper and discussion has a list of references, and the entire collection is indexed by names and subjects. **(149)**

NIBLETT, W. R. (ed.). **How and why do we learn?** London: Faber and Faber, 1965. 196 pp.

Originally presented in a series of public lectures at the University of London Institite of Education, the nine essays included in the book are divided into two main parts. The six essays of Part One are by psychologists and stress the importance of environmental factors in learning. The remaining three essays of Part Two deal with aspects of informal or non-academic learning. Contents are: (1) Learning versus Teaching, by Stephen Wiseman; (2) Perception, Intuition, and Insight, by Doris M. Lee; (3) Learning to Think, by W. D. Wall; (4) Programmed Learning, by Harry Kay; (5) How Does a Group Learn• to Work Together, by Ben Morris; (6) Learning to Deal with Mass Persuasion, by Richard Hoggart; (8) Learning to Enjoy, by Stephen Potter; (9) Learning to Live in a Heterogeneous World, by Sir Hugh Foot. **(150)**

THORNDIKE, EDWARD L. **Human learning.** Cambridge, Mass.: The MIT Press, 1931. 206 pp.

This book contains a series of 12 lectures. Their titles are: (1) Introduction: The Influence of the Frequency of Occurrence of a Situation; (2) The Influence of the Frequency of Occurrence of a Connection: The Principle of Belonging; (3) The Influence of the After-Effects of a Connection; (5) New Experimental Data is the After-Effects of a Connection; (6) Identifiability, Availability, Trial, and System; (7) Other Facts Concerning Mental Connections: Conditioned Reflexes and Learning; (8) Purposiveness and Learning: Gestalt Theory and Learning; (9) Ideational Learning; (10) Thinking and Reasoning; (11) The Evaluation of Learning in General; and (12) The Evaluation of Learning in Recent Times: Future Possibilities. A bibliography of references in the text and an index are included. **(151)**

TRAVERS, ROBERT M. W. **Essentials of learning: an overview for students of education**. 2nd edition. New York: Macmillan, 1967. 560 pp.

This text on the psychology of learning is a comprehensive overview of current knowledge, with some emphasis on theoretical issues and problems to be solved. Some implications of research results are given but no specific classroom procedures are suggested. Each chapter has a summary. An epilogue lists 66 generalizations useful in the management of learning, and suggests problems in the design of teaching methods. A 26-item bibliography and an index are included. Chapters are: (1) Some Approaches to Learning; (2) Fundamental Concepts in Research on Learning; (3) Reinforcement and Learning; (4) Generalization, Discrimination, and the Development of Stimulus Control; (5) Concept

Learning and Verbal Learning; (6) Motivation; (7) The Nervous System and Learning; (8) The Transfer of Training; (9) Developmental Processes in Relation to Learning; (10) Some Acquisition and Retention Phenomena; (11) Problem Solving and Decision Making; (12) Social Factors Influencing Learning; (13) The Learning of Attitudes; (14) Perceptual and Phenomenological Approaches to Learning; (15) The Measurement of Some Mediating Processes Involved in Learning: Aptitudes; (16) Learning Theory and the Mechanization of the Classroom. **(152)**

WOODWORTH, ROBERT S. and HAROLD SCHLOSBERG. **Experimental psychology.** Revised edition. New York: Holt, Rinehart & Winston, 1954.

This book covers experimental psychology in general. Chapters on learning include the following titles: (1) Learning: Introductory Survey, (2) Conditioning, (3) Discrimination Learning, (4) Maze Learning, (5) Motivation in Learning and Performance, (6) Transfer and Interference, and (7) Economy in Learning and Performance. *(HumRRO)* **(153)**

LEARNING THEORY AND RESEARCH–SPECIFIC TYPES AND ASPECTS

AUSUBEL, DAVID P. **The psychology of meaningful verbal learning: an introduction to school learning.** New York: Grune & Stratton, 1963. 255 pp.

This indexed volume on the major cognitive learning activities in schools organizes the relatively sparse research on the subject according to a unified theory of verbal "reception" learning and its retention. This theory distinguishes between "rote-meaningful" and "reception-discovery" learning and suggests a concept of "meaning" based on nonarbitrary, substantive relatability to cognitive structure. It distinguishes between logical and psychological meaning and between rote and meaningful learning processes. A two-stage subsumption process is suggested whereby new material is meaningfully incorporated into and retained within cognitive structure. Dissociability strength is seen as a criterion of meaningful retention. The centrality of properties of relevance, stability, clarity, and discriminability in the efficient learning and retention of new material are included in this concept. A cognitive structure concept of transfer is proposed and derivative versus correlative subsumption is discussed. Principles of progressive differentiation and integrative reconciliation, both with respect to the organization of cognitive structure and as ways of programming new material, are discussed. The cognitive "organizer" technique of didactic exposition, the psychological and educational significance of the concrete-abstract dimension of cognitive development, and the psychological and educational limitations of learning by discovery are explained. Practice and instructional materials are reinterpreted in terms of their influence on cognitive structure, and in terms of the mediational effects of cognitive structure on their actions. References follow each chapter. **(154)**

AUSUBEL, DAVID P. The use of advance organizers in the learning and retention of meaningful verbal material. **Journal of educational psychology** 51:5, 1960. pp. 267-272.

The learning and retention of unfamiliar but meaningful verbal material can be facilitated by the advance introduction of relevant subsuming concepts (organizers), because cognitive structure is hierarchically organized in terms of highly inclusive concepts under which are subsumed less inclusive subconcepts and informational data. The facilitating influence of advance organizers on the incomparability and longevity of meaningful learning material is attributable to two factors: (1) the selective mobilization of the most relevant existing concepts in the learner's cognitive structure for integrative use as part of the subsuming focus for the new learning task; and (2) the provision of optimal anchorage for the learning material in the form of relevant and appropriate subsuming concepts at a proximate level of inclusiveness. Greater use of appropriate advance organizers in the teaching of meaningful verbal material leads to more effective retention and can render unnecessary much of the rote memorization to which students resort because they are required to learn the details of a discipline before having available a sufficient number of key subsuming concepts. **(155)**

BANDURA, ALBERT and RICHARD H. WALTERS. **Social learning and personality development.** New York: Holt, Rinehart & Winston, 1963. 329 pp.

A set of social-learning principles that emphasize the role of social variables to a greater extent than current learning theories are outlined. The socio-behavioristic approach used integrates the authors' own research findings with findings obtained from controlled investigations in child development and social psychology, as well as traditional experimental psychology. The chapter titles describe the contents: (1) The Socio-Behavioristic Approach (principles of social learning, methodological problems); (2) The Role of Imitation; (3) Reinforcement Patterns and Social Behavior (aggression, dependency, sex behavior); (4) The Development of Self-Control; (5) The Modification of Behavior (methods of producting behavioral change, some theoretical issues). A list of references and author and subject indexes are included. **(156)**

BRADFORD, LELAND P. (ed.). **Forces in learning** (Selected Reading Series no. 3). Washington, D.C.: National Training Laboratory and National Education Association, 1961. 102 pp.

Articles under the following titles support the idea that tradition in education has prevented major changes in the practice of teaching, but must give way to recognition of group, social, and emotional forces and their influence on learning: The Teaching-Learning Transaction, by Leland P. Bradford; Teacher-Pupil Contacts and Mental Hygiene, by Ned A. Flanders; The Learner and the Classroom Group, by Ronald Lippitt; Developing Potentialities Through Class Groups, by Leland P. Bradford; Sociopsychological Processes of Group Instruction, by Jack R. Gibb; Classroom Social Structure as a Mental Health Problem, by Ronald Lippitt and Martin Gold; Power Conflict in Classrooms and Motivation for Learning, by David H. Jenkins; The Learning Process During Human Relations Training, by Matthew B. Miles; University Training in Human Relations Skills, by Jane Srygley Mouton and Robert R. Blake; Case Methods in the Training of Administrators, by Kenneth D. Benne. **(157)**

BRIGGS, LESLIE J. and NANCY RUSSELL HAMILTON. Meaningful learning and retention: practice and feedback variables. **Review of educational research** 34:5, December 1964. pp. 545-558.

In the research reported in this article, the investigators who carried out a large proportion of the studies concerned with practice and reinforcement in verbal learning employed rote memorization or problem solving as experimental tasks. Results from these studies are difficult to apply to education, because these tasks differ so much from classroom learning. Comparisons of particular autoinstructional programs with certain instances are difficult to interpret because experimental variables are not explicitly described. In general, when tasks lend themselves to much internal cognitive structuring, the function of practice is to provide the occasion for such structuring. For rote learning, the function of practice is to provide relatively more instances of prompting, responding, contiguity, and feedback, in order to strengthen the desired response, to dissociate it from conflicting responses, and to bring disinhibition. In relation to prompting and confirmation, the most clear-cut results of the review can be expressed. When the student needs only to acquire, by rote, the ability to reproduce a verbal task, repeated trials under full prompting are sufficient, with or without overt responding or feedback. When the student must discover how to define the goal or how to reach it, some combination of prompting, responding, and feedback appears optimal. When it is necessary to employ some device external to the task itself to keep the student working, reinforcement through reward or, perhaps, vicarious reinforcements may need to be added to prompting and feedback conditions. A bibliography is included. **(158)**

DeCECCO, JOHN P. (ed.). **The psychology of language, thought, and instruction.** New York: Holt, Rinehart & Winston, 1967. 446 pp.

The problem of instruction in language and thought is the organizing principle of this selection of 43 essays by various authorities. The book is interdisciplinary in nature and has borrowed theory and fact from such fields as linguistics, psycholinguistics, the psychology of cognition and verbal learning, developmental psychology, anthropology, sociology, and education. The book represents each discipline within the framework of the general objective–greater knowledge and understanding of instruction in language and thought. It is divided into 10 sections, each with an introduction by the editor: (1) The Study of Language: In the Beginning was the Sound (the relation of language mastery and the various intellectual processes); (2) Language, Thought, and Culture: Linguistic Trickery (the relation of language and thought to culture); (3) Language and Social Class: Cognitive Disadvantage (identification of social class differences in linguistic and cognitive behavior); (4) Language and Meaning: The Union of Mind and Body (the question of the meaning of meaning and how meaning is acquired); (5) Instruction in Reading: From Phoneme to Grapheme; (6) The Study of Thought; (7) The Development of Language and Thought: Ages and Stages: (8) Language and Learning: How Do We Acquire Language; (9) Language and Problem Solving; and (10) Instruction in Language and Thought: There May Be a Will Without a Way. Indexes of names and subjects are included. **(159)**

FLEISHMAN, EDWIN A. The description and prediction of perceptual-motor skill learning. IN Glaser, Robert (ed.). **Training research and education.** Pittsburgh: University of Pittsburgh Press, 1962. pp. 137-175.

The facts of individual differences have relevance to the requirements of tasks to be learned. The interaction of treatment effects with individual difference variables is of major theoretical and practical significance. The study of ability variables and the learning of perceptual-motor tasks assists understanding of perceptual-motor performance, and may be useful in predicting later proficiency as well as in the structuring of training. This chapter summarizes research concerned with the isolation of ability variables productive of high proficiency levels in perceptual-motor skill learning. **(160)**

GAGNÉ, ROBERT M. (ed.). **Learning and individual differences.** Columbus, Ohio: Charles E. Merrill Books, 1967. 265 pp.

A 1965 symposium of the Learning Research and Development Center, University of Pittsburgh, considered the question of how people differ in the rate, extent, style, and quality of their learning. Each chapter contains a major paper immediately followed by a discussant's comments. The volume as a whole provides a survey of views on the problem of individual differences in learning. The major papers include: (1) Some Implications of Previous Work on Learning and Individual Differences, by Robert Glaser; (2) How Can Instruction be Adapted to Individual Differences?, by Lee J. Cronbach; (3) Individual Differences in Verbal Learning, by James J. Jenkins; (4) Individual Differences and Problem Solving, by Richard C. Anderson; (5) Individual Differences in "Attention": The Orienting Reflex, by Irving Maltzman; (6) Varieties of Individual Differences in Learning, by Arthur R. Jensen; (7) Individual Performance, R-R Theory and Perception, by Murray Glanzer; (8) Individual Differences and Motor Learning, by Edwin A. Fleishman; (9) The Relation of IQ and Learning, by David Zeaman and Betty J. House; (10) Simulation of Cognition and Learning: The Role of Individual Differences, by Paul M. Kjeldergaard; and (11) Individual Differences and Theoretical Process Variables: General Comments on the Conference, by Arthur W. Melton. Each paper includes a list of references and the entire collection is indexed by author and subject. **(161)**

GAGNÉ, ROBERT M. Problem solving. IN Melton, Arthur W. (ed.). **Categories of human learning.** New York: Academic Press, 1964. pp. 293-317.

Certain variables govern problem solving as a form of learning. Dependent variables include (1) rate of attainment of some criterion performance, and (2) degree of correctness of this performance. The independent variables are (1) the stimulus situation and (2) a set of instructions. The instructions are intended to change the subject's behavior in four ways by: (1) identifying new stimuli; (2) identifying the expected form of the terminal performance; (3) recalling previously acquired capabilities; and (4) chaneling thinking in a relevant direction. The most important difference between problem-solving and other forms of learning is that the learning situation for problem-solving never includes performances which could, by simple summation, constitute the criterion performance. Problem-solving is the most complex form of human learning. The suggested ordering of types of learning is: (1) response learning; (2) chaining; (3) verbal learning; (4) concept learning; (5) principle learning; and (6) problem-solving. Problem-solving requires the establishment of a process which combines two or more previously learned rules in a higher-order rule. **(162)**

GAGNÉ, ROBERT M. and ROBERT C. BOLLES. A review of factors in learning efficiency. IN Galanter, Eugene (ed.). **Automatic teaching: The state of the art.** New York: John Wiley & Sons, 1959. pp. 13-53.

There are certain manipulatable conditions of learning which may be used to ensure maximum transfer from learning to tasks of the job. If these are all systematically controlled by a machine or by an otherwise well-designed learning situation, there are great possibilities for increasing the efficiency of learning. In learning to identify, to follow procedures, and to use concepts, there are two classes of manipulatable conditions: (1) "readiness factors," which are the motivational or preparatory conditions that make the trainee ready for learning; and (2) "associative factors," which are the stimulus conditions that determine which specific associations are formed and how strong these associations are relative to competing associations. Readiness factors include (1) motivation, (2) reinforcement, (3) task set, and (4) attention, or intent to learn. Associative factors include (1) the nature of the association to be established, (2) intratrial factors, and (3) intertrial factors. It is important to determine how far each of these variables, or combinations of them, can be pushed in order to make learning efficient. **(163)**

GAGNÉ, ROBERT M. and NOEL E. PARADISE. Abilities and learning sets in knowledge acquisition. **Psychological monographs** 75:14, Whole No. 518, 1961. 23 pp.

Individual differences in rate of completion of and achievement in learning programs result primarily from the fact that individuals begin the task of learning with different amounts and kinds of knowledge, and only secondarily from a difference in basic abilities or in general intelligence. A set of subordinate capabilities called "learning sets," arranged in a hierarchy such that any learning set may have several learning sets subordinate to it, are relevant to any task. In order for learning to occur at any point in the hierarchy, each of the learning sets subordinate to a given task must be highly recallable and integrated by a thinking process into the solution of the problem posed by the task. A substantial proportion of the variance in learning program performance is attributable to the attainment or nonattainment of learning sets relevant to the final task which the program is designed to teach. An ideally effective learning program has the effect of reducing the performance variance attributable to number and pattern of relevant learning sets to zero, since in such a program all learning sets are attained by everyone. General intelligence and relevant basic abilities relate to the time taken by the learner to attain any or all of the relevant learning sets, including the final task. The relation of basic and general abilities to achievement (as opposed to learning rate) is more difficult to predict. According to this theory of learning set hierarchy, the frames of a program should be designed in such a way that they (1) constitute an ordered sequence logically related to the hierarchy of learning sets for the desired final task; (2) provide for recallability of subordinate learning sets;

and (3) furnish the guidance to thinking which will enable the learner to integrate subordinate learning sets in the performance of new tasks. **(164)**

GROSE, ROBERT R. and ROBERT C. BIRNEY (eds.). **Transfer of learning: an enduring problem in psychology.** New York: D. Van Nostrand Company, 1963. 194 pp.

This book reports on studies of transfer of training. Contents include: (1) The influence of Improvement in One Mental Function upon the Efficiency of Other Functions, by Edward L. Thorndike; (2) Reciprocal Improvement in Learning, by Peter Sandiford; (3) An Experimental Test of the Law of Assimilation, by K. S. Yum; (4) Transfer of Training in Reasoning, by M. C. Barlow; (5) Transfer of Training in Learning to Hit a Submerged Target, by Gordon Hendrickson and William H. Schroeder; (6) The Similarity Paradox in Human Learning: A Resolution, by Charles E. Osgood; (7) Stimulus Predifferentiation: Some Generalizations and Hypotheses, by Malcolm D. Arnoult; (8) Transfer of Learning, by J. M. Stephens; (9) Transfer to a Motor Task as Influenced by Conditions and Degree of Prior Discrimination Training, by Albert E. Goss and Norman Greenfeld; (10) The Transfer Value of Given and Individually Derived Principles, by G. M. Hoslereed and Shirley Meyers; (11) A Comparison of Three Varieties of Training in Human Problem Solving, by Lloyd Morrisett, Jr., and Carl J. Hovland; (12) Problem Solving Behavior and Transfer, by Rudolph W. Schulz; and (13) On Transfer and the Abilities of Man, by George A. Ferguson. **(165)**

HARLOW, HARRY F. The formation of learning sets. **The psychological review** 56:1, January 1949. pp. 51-65.

Because the human being is a reasonably rational creature rather than a conditioned response robot, the learning of primary importance to him is the formation of learning sets or learning how to learn efficiently. This "learning to learn" transforms the organism from a creature that adapts to a changing environment by trial and error to one that adapts by seeming hypothesis and insight. The development of certain learning sets is extremely orderly, quantifiable, and predictable. A learning set functions to convert a problem which is initially difficult into a problem which is so simple as to be immediately solvable. Thus, the formation of a learning set leaves the organism free to attack problems of another hierarchy of difficulty. Much of the current research on learning theory forgets the experience variable in learning behavior, i.e., the learning sets which subjects bring to the experimental situation. Detailed knowledge of the nature of the formation of learning sets could be of such importance to educational theory and practice as to justify prolonged and systematic investigation. **(166)**

HUNT, EARL B. **Concept learning; an information processing problem.** New York: John Wiley & Sons, 1962. 286 pp.

"An attempt has been made to bring together some of the relevant material from fields of logic, psychological theory, and electronic computers." Chapter headings further indicate content and organization: (1) The Nature of Concept Learning; (2) Analysis of the Problem; (3) Concept Learning and Basic Learning; (4) Stimulus Organization; (5) Memory and Concept Learning; (6) Strategies of Concept Learning; (7) Artificial Intelligence; (8) An Information-Processing Model of Concept Learning; (9) Concept Formation by Artificial Intelligence; (10) The Near Future. **(167)**

KELLER, FRED S. **Learning: reinforcement theory.** New York: Random House, 1954. 37 pp.

The reinforcement theory of learning is explained in detail; its principles are identified and clarified, and their interrelationships and possible extensions indicated. Included are discussions of operant and respondent behavior; respondent conditioning; operant conditioning; positive and negative reinforcers; extinction; extinction and negative reinforcement; primary and secondary reinforcement; generalization; discrimination; differentiation; chaining; and secondary negative reinforcement. Suggestions for further reading and a brief bibliographical essay on these readings are given. **(168)**

KLEINMUNTZ, BENJAMIN (ed.). **Problem solving; research, method, and theory.** New York: John Wiley & Sons, 1966. 406 pp.

This book is the result of the first of an annual series of symposia in the area of cognition under the sponsorship of Carnegie Institute of Technology. Partial contents are: Current Trends in Problem Solving, by Bert F. Green, Jr.; Human Problem Solving: Internal and External Events, by Robert M. Gagne; An Operant Analysis of Problem Solving, by B. F. Skinner. *(USCSC 1, edited)* **(169)**

POSTMAN, LEO. Learned principles of organization in memory. **Psychological monographs** 68:3, Whole no. 374, 1954. pp. 1-24.

A series of studies is described demonstrating that learned rules of organization can systematically influence both amount and quality of retention. The effectiveness of this training increases with retention interval. *(HumRRO)* **(170)**

SEASHORE, ROBERT H. Work and motor performance. IN Stevens, S. S. (ed.). **Handbook of experimental psychology.** New York: John Wiley & Sons, 1951. pp. 1341-1362.

Gross motor coordination, the activity of nerves that connect the central nervous system to muscles and glands, is manifested as strength, and differs from fine motor coordination, in which strength is secondary to speed and precision. Among the factors underlying individual differences in fine motor skills are these: the musculature is of slight significance; the sensory organ employed is of moderate significance; the pattern of movement is likely to be of the greatest significance. The "work methods hypothesis" suggests that individual differences in human ability are attributable to the physical constants (innate characteristics) of the organs involved, the pattern of the component actions used, and the refinement of these patterns through varying strength and timing to produce an optimal pattern of action. Empirical evidence indicates that skilled workers attain superior results by discovery of qualitative patterns of action (work methods) that make work easier. **(171)**

SENTER, R. J. **Review of mnemonics and mnemonotechnics for improved memory** (AMRL-TR-65-180). Wright-Patterson Air Force Base, Ohio: Air Force Systems Command, Aerospace Medical Division, Aerospace Medical Research Laboratories, Behavioral Sciences Laboratory, December 1965. 18 pp.

"A review was made of books on mnemonics and mnemonotechnics. These are techniques for improving the efficiency of memory. These books describe the effect on memory of common principles of learning, such as motivation, attention, and rehearsal. They also illustrate the use of simple mnemonics such as 'ROY G. BIV' for remembering the hues of the visual spectrum. More extensive descriptions, however, are provided of more complex mnemonic systems, such as the so-called 'hook' or 'peg' systems. With the hook system, information in serial order is retained by aid of vivid, even bizarre, visual images. The information to be retained is incorporated into a visual image which had been previously associated with a number. The report includes some uses of these techniques and some personal observations and analyses. These techniques offer interesting possibilities for improving the retention of technical information. Research on these techniques probably would be profitable." *(ASTD)* **(172)**

SMITH, WENDELL I. and J. WILLIAM MOORE. **Conditioning and instrumental learning: a program for self-instruction.** New York: McGraw-Hill, 1966. 169 pp.

Prepared for beginning college students, this book presents most of the key concepts and principles in common use in classical conditioning and instrumental training with more thorough treatment of important concepts such as reinforcement, extinction, and discrimination. The humanistic implications of the models of classical conditioning and instrumental training are presented and recent developments in interoceptive conditioning and behavior therapy are included to provide appreciation of the potential value of conditioning models. The material is "semi-programmed": information is presented in prose rather than programmed form and is followed by a set of frames which (1) teach discriminations among concepts; (2) call attention to important material; (3) provide review of information sections; or (4) test knowledge of the material. Three articles from scientific journals are included to provide opportunity for the reader to transfer what is learned to the reading of articles in scientific journals. Reading time for the book ranges from 7-13 hours. A 59-item bibliography and an index are included. **(173)**

STAATS, ARTHUR W. (ed.). **Human learning: studies extending conditioning principles to complex behavior.** New York: Holt, Rinehart & Winston, 1964. 520 pp.

The application of learning principles to the study of human behavior and its problems is the organizing thesis in this selection of 49 essays by various authors, including the editor. The stated aim is twofold: (1) to "focus" this development, and (2) to provide a stimulus for it. Several dominant themes are subsumed under this aim: (1) the various studies suggest that an integration of empirical learning principles and methods will serve as a general approach to the study of human behavior and its problems; (2) information on contemporary research procedures for this study is described in the articles, providing an important set of tools for the empirically minded student of human behavior; (3) the articles provide support for the view that learning psychology is entering upon the phase of a science where basic principles and methods become applicable to the study and solution of complex problems; (4) the application of basic principles to complex cases and to actual practical problems is an integral part of the generalization and verification of the principles and the science. The book is divided into nine chapters: (I) Introduction; (II) Child Learning; (III) Verbal Behavior; (IV) Communication and Other Functions of Language; (V) Problem Solving; (VI) Attitude Learning and Human Motivation; (VII) Social Interaction, Attitude Function, Group Cohesiveness, and Social Power; (VIII) Personality; (IX) Behavioral Treatment. A bibliography and author and subject indexes are included. **(174)**

UNDERWOOD, BENTON J. and RUDOLPH W. SCHULZ. **Meaningfulness and verbal learning.** Chicago: J. B. Lippincott, 1960. 430 pp.

The basic experiments on which this book is based were supported by the Office of Naval Research. The volume is divided into two parts, the first being a summary of the work of other investigators to give a picture of the state of knowledge about meaningfulness and learning at the time these studies were undertaken. The second half is devoted to the experimental analyses of the authors. Chapter titles are: The Definition of Meaningfulness; Meaningfulness and Learning: Initial Evidence; Frequency and Meaningfulness; Word Structure and Learning Materials; Frequency and the Spew Hypothesis; Initial Experiments on Response Frequency; Further Experiments on Response Frequency; Letter Sequence Habits; Letter Association and Learning; A Final Appraisal. Appendixes contain technical data. An author index is included. **(175)**

WINNICK, WILMA A. Two sources of distraction in incidental learning. **The American journal of psychology** 79:1, March 1966. pp. 104-110.

One of two experiments showed that incidental learning, unlike intentional learning, is unaffected by external distractions. The other experiment showed that internal distraction had no effect on intentional learning and only a slight effect on incidental learning. Incidental learning may be generally immune to distraction either because it occurs under any conditions or because of a high degree of selectivity in incidental learning. **(176)**

PROGRAMMED LEARNING THEORY AND RESEARCH

De CECCO, JOHN P. (ed.). **Educational technology, readings in programmed instruction.** New York: Holt, Rinehard & Winston, 1964. 479 pp.

This collection of readings brings together research reports and theoretical discussions of psychologists and educators who have contributed to the knowledge about educational technology, programmed learning, and the psychology of learning. The criteria used for selecting the readings further elaborate this purpose: (1) readings were chosen that emphasize the relationship between the psychology of learning and practical applications of this knowledge in educational technology and programmed learning; (2) research reports and discussions of research were selected for each of the major variables of programmed material thus far investigated; (3) a few readings were selected in order to familiarize students with the basic concepts, techniques, and mechanical devices that have thus far been employed; (4) major research reports, frequently referred to in the informal discussions of the field have been selected; (5) readings of a more practical nature that deal with the problems of school utilization have been selected; (6) readings that are critical of many of the unwarrantedly enthusiastic claims made for programmed learning and educational technology are included. **(177)**

De GRAZIA, ALFRED and DAVID A. JOHN (eds.). **Programs, teachers, and machines.** New York: Bantam Books, 1964. 309 pp.

Articles by leading therapists, psychologists, educators, programmers, and research specialists who have been working with programmed instruction are presented. The aim of the book is to provide the reader with a sense of perspective about the state of the art. The thirty-four essays are arranged in five sections: (1) Programmed Instruction: Background and Setting; (2) Programming Theory; (3) Research and Development in Programmed Instruction; (4) Programmed Instruction for Subject Matter Areas; and (5) The Potential of Programmed Instruction: Evaluation and Use. **(178)**

FINE, B. **Teaching machines.** New York: Sterling Publishing Company, 1962. 176 pp.

This book is written for those with a low level of prior knowledge about teaching machines. The course followed is a build-up of information about teaching machines written in simple, easy-to-understand language. Some chapter headings are: (1) What is a Teaching Machine; (2) Programmed Learning; (3) How Do Students Respond; (4) How Do Teachers React; (5) What Can Teaching Machines Teach; and (6) Research Findings. *(ASTD)* **(179)**

GAGNÉ, ROBERT M. and LARRY T. BROWN. Some factors in the programming of conceptual learning. **Journal of experimental psychology** 62:4, October 1961. pp. 313-321.

"An experiment was performed to investigate the effects of certain variations in the programming of conceptual learning materials on effectiveness of learning as measured by performance in a problem-solving situation." Three programs incorporating differences in experimental treatment were used: a rule and example program (using small steps), a discovery program (using very large steps), and a guided discovery program (using small steps). Significant learning occurred with all programs. However, best performance resulted from guided discovery, worst from rule and example, and intermediate from discovery. The finding that a discovery method lead to greater transfer than a rule and example method was consistent with earlier cited investigations. Results were interpreted as suggesting that: (1) the guided discovery program led to superior performance because it required systematic reinstatement (and in this sense, practice) of learned concepts; (2) positive transfer of training to a problem-solving situation depends upon the resemblance between what is practiced in a learning situation and what is used in problem solving; (3) to find the ways of developing effective learning programs, one must search out the specific concepts which enter into the chain of events between the stimulus situation and the overt performance itself; and (4) "what is learned" rather than "how it is learned" is the crucial factor in problem-solving performance and learning effectiveness. **(180)**

GALANTER, EUGENE (ed.). **Automatic teaching: the state of the art.** New York: John Wiley & Sons, 1959. 198 pp.

These papers, most of which were prepared for the first conference in the Art and Science of the Automatic Teaching of Verbal and Symbolic Skills (1958), provide information on automatic teaching and are presented to help researchers to isolate parameters. Titles are: The Ideal Teacher, by Eugene Galanter; A Review of Factors in Learning Efficiency, by Robert M. Gagne and Robert C. Bolles; On Some Methods of Programming, by Jacob Beck; The Programming of Verbal Knowledge, by B. F. Skinner; A Teaching Machine Program in Psychology, by James G. Holland; A Program in Elementary Arithmetic: Present and Future, by Susan R. Meyer; Some Effects on Year-Long Teaching Machine Instruction, by Douglas Porter; Speculations: Characteristics of Successful Programs and Programmers, by Donald E. P. Smith; Relationships Between the Programmed Textbook and Teaching Machines, by Lloyd E. Homme and Robert Glaser; Automatic Tutoring by Means of Intrinsic Programming, by Norman A. Crowder; The IBM Research Center Teaching Machine Project, by Gustave J. Rath, Nancy S. Anderson, and R. C. Brainerd; Teaching Machines for Training of Military Personnel in Maintenance of Electronic Equipment, by Leslie J. Briggs; Partial and More Complete Automation of Teaching in Group and Individual Learning Situations, by A. A. Lumsdaine; Skinner's Theory of Teaching Machines, by David Zeaman; Teaching Machines and Psychological Theory, by Howard H. Kendler; Certain Major Psycho-Educational Issues Appearing in the Conference on Teaching Machines, by S. L. Pressey. **(181)**

GEIS, GEORGE L. Variety and programmed instruction or what can't be programmed? **AV communication review** 14:1, Spring 1966. pp. 109-116.

Programmed instruction is a process rather than a product. The programmer is engaged in the specification and analysis of behavior, not content. This behavior orientation makes it possible to develop a program to produce any behavioral goals that can be specified. Any traditional content, once it has been categorized on the basis of specifiability of the outcomes desired, can be programmed. It is not the sole purpose of programmed instruction to teach rote responses, but rather to teach crucial concepts. More programs should be developed as instruments of concept formation rather than of information passage. **(182)**

GLASER, ROBERT (ed.). **Teaching machines and programmed learning, II: data and directions.** Washington, D.C.: National Education Association, 1965. 831 pp.

Not all authors represented in this collection (indexed by subject and author) are committed to the idea of programmed instruction, but they are convinced of the validity of teaching methods based on behavior theory and experimental evidence. This volume includes more reference works than does its companion volume, *Teaching Machines and Programmed Learning I.* Seventeen papers are divided into four sections: Section I, Perspectives and Technology–(1) Reflections on a Decade of Teaching Machines, by B. F. Skinner; (2) The Analysis of Instructional Objectives for the Design of Instruction, by Robert M. Gagne; (3) Research on Programming Variables, by James G. Holland; (4) An Analysis of Programming Techniques, by David J. Klaus; (5) Teaching Machines and Computer-Based Systems, by Lawrence M. Stolurow and Daniel Davis; (6) The Theory and Practice of Adaptive Teaching Systems, by Brian N. Lewis and Gordon Pask; (7) Assessing the Effectiveness of Instructional Programs, by A. A. Lumsdaine; (8) Programming Classroom Instruction, by Bert Y. Kersh; Section II, Technology and Subject Matter–(9) Programming in Mathematics and Logic, by James L. Evans; (10) Science Education and Behavioral Technology; (11) Reading and Related Verbal Learning, by Harry F. Silberman; (12) Programmed Instruction in English, by Susan Meyer Markle; (13) Programmed Learning of a Second Language, by Harlan Lane; Section III, Implementation– (14) School Use of Programmed Instruction, by Lincoln F. Hanson and P. Kenneth Komoski; (15) The Use of Programmed Instruction in Industry, by H. A. Shoemaker and H. O. Holt; (16) Use of Programmed Instructional Materials in Federal Government Agencies, by Glenn L. Bryan and John A. Nagay; Section IV, Directions– (17) Toward a Behavioral Science Base for Instructional Design, by Robert Glaser. Each paper lists references. **(183)**

GREEN, EDWARD J. **The learning process and programmed instruction.** New York: Holt, Rinehart & Winston, 1962. 228 pp.

The author's objective in this book is to bridge the information gap between the experimental psychologist and the teacher. Programmed instruction is seen as "the first application of laboratory techniques utilized in the study of the learning process to the practical problems of education." At present it employs only the simplest of behavioral control techniques. The author suggests that "looking at behavior from the point of view of the experimentalist can provide the teacher with fresh insights that need not dehumanize his relationship with his students, but rather affords a more effective teacher-student relationship in the best sense of the term." The first half of the book deals with behavioral psychology concepts, the second half with aspects of programmed instruction. There are 76 references and an index of names and subjects. Chapter titles further indicate content and organization: (1) Assumptions; (2) Definitions; (3) Basic Conditioning Processes; (4) Motivation; (5) Complex Processes; (6) Concept of Programmed Instruction; (7) Teaching Machines; (8) Techniques of Programming; (9) Evaluation; (10) Problems. The appendix contains a statement on self-instructional materials and devices released by a joint committee of the American Educational Research Association, the American Psychological Association, and the Department of Audio-Visual Instruction of the National Educational Association. **(184)**

HOLLAND, JAMES G. Research on programming variables. IN Glaser, Robert (ed.). **Teaching machines and programmed learning II: data and directions.** Washington, D.C.: National Education Association, 1965. pp. 66-117.

Programming is the construction of carefully arranged sequences of contingencies that lead to certain terminal performances which are the object of education. A review of experimental research in the variables of programming discloses that: (1) a contingent relation between answer and content is important; (2) the ability for the contingency to be met (low error rate) has received support; (3) sequencing is important at least for material that builds progressively. (Principles of progression have been demonstrated in teaching verbal knowledge, shaping skillful response topographies, and establishing or transferring stimulus control; fading of formal prompts in teaching isolated stimulus-response associations has not been demonstrated); (4) a range of examples is probably necessary for full comprehension; and (5) for long programs, a public, overt response is necessary if the material meets the above criteria of a program. **(185)**

LUMSDAINE, ARTHUR A. (ed.). **Student response in programmed instruction: a symposium on experimental studies of response factors in group and individual learning from instructional media.** Washington, D.C.: National Academy of Sciences, National Research Council, 1961. 555 pp.

This book brings together and makes available a group of studies that have relevance both for programmed self-instruction by teaching machines and related devices and also for sequenced, reproducible instructional programs presented by films and other media. Some of the distinctions and relationships between the specialized and more general forms of programmed instruction are discussed in the introductory chapter. The papers collected for this volume report experimental studies of procedures for guiding the implicit or overt responses of learners to increase the effectiveness of instruction. The symposium reports the findings of relevant studies that developed out of military research programs. All the studies involve conscious attention to the manipulation of appropriate implicit or overt responses by the learner, and most of them involve techniques for eliciting and/or guiding overt responses during the course of instruction. They do not, however, represent a fully integrated programmatic effort, but were conducted under a policy allowing considerable latitude to individual investigators in the formulation of problems and research design. These 31 studies by various authors are divided into three main parts: (I) Learning Complex Sequential Tasks for Demonstration and Practice; (II) Motor, Perceptual, and Academic Subject-Matter Learning; (III) Studies on Learning of Paired-Associates Material. A bibliography and a name index are included. **(186)**

LUMSDAINE, ARTHUR A. and ROBERT GLASER (eds.). **Teaching machines and programmed learning: a source book.** Washington, D.C.: National Education Association, Department of Audio-Visual Instruction, 1960. 724 pp.

This book of 48 papers (with bibliography and author index) is organized into five parts: Purpose and Scope, Pressey's Self-Instructional Test-Scoring Devices, Skinner's Teaching Machines and Programming Concepts, Contributions from Military and Other Sources, and Some Recent Work. One appendix contains abstracts of all published papers (and some unpublished material) that deal directly with teaching machines and programmed learning. **(187)**

MARKLE, SUSAN M. and PHILIP W. TIEMANN. **Programming is a process: an introduction to instructional technology** (A Programmed Film). **Technical manual: the content, objectives, measuring instruments, and validation studies.** Chicago: University of Illinois at Chicago Circle, Office of Instructional Resources, 1967. 25 pp.

This manual accompanies a program presented via 16mm color film (running time 32 minutes). Each viewer is provided with a copy of the "student notes," a two-page handout that provides space for directed note-taking and question-answering and also serves as a take-home summary of the program. An instructor's guide and an evaluation sheet are also included. "The program introduces viewers to the basic process of instructional technology: programming an instructional sequence for maximum student learning. The steps of the programming process, applicable to all media, are described as a means to (1) prepare instruction resulting in specific student performance; (2) provide for student interaction with the instructional process; and (3) provide for evaluation of instruction in terms of student performance" (author's summary). **(188)**

MELCHING, WILLIAM H. **Measures of ability and programmed instruction performance** (HumRRO technical report 65-12). Alexandria, Va.: The George Washington University, Human Resources Research Office, December 1965. 11 pp.

"The results of several programmed instruction studies recently accomplished by HumRRO Division No. 5 (Air Defense) at Fort Bliss were compared with regard to the relationship between measures of ability and measures of programmed instruction performance. Although there were some exceptions, each ability measure tended to be substantially related to each measure of program-test performance. The contention that programmed instruction eliminates achievement differences due to intellectual ability was not substantiated." *(ASTD)* **(189)**

RESNICK, L. B. Programmed instruction and the teaching of complex intellectual skills: problems and prospects. **Harvard educational review** 33:2, 1963. pp. 439-471.

This article provides a discussion of the implications of operant conditioning and cognitive theory for the learning of complex intellectual skills by programmed instruction. *(HumRRO)* **(190)**

SCHRAMM, WILBUR. **The research on programmed instruction: an annotated bibliography** (Bulletin No. 35, OE-34034). Washington: U.S. Department of Health, Education, and Welfare, Office of Education, 1964.

This is an annotated bibliography of 190 research reports on programmed instruction published since 1954. A 15-page introductory summary is provided. *(HumRRO)* **(191)**

SIEGEL, ARTHUR I. and M. A. FISCHL. Studies in adjunct autoinstruction. **Journal of industrial psychology** 4:2, 1966. pp. 37-47.

Adjunct autoinstruction is a form of programmed instruction; it is "self-instruction as an adjunct to some primary teaching method." These studies attempted to determine "the relative effectiveness of adjunct autoinstruction in comparison with presentation of the same course materials by unaugmented methods." *(USCS 1)* **(192)**

SILBERMAN, HARRY F. Self-teaching devices and programmed materials. **Review of educational resources** 32:2, April 1962. pp. 179-193.

Research on self-teaching devices and programmed materials is reviewed. Topics include (1) Summaries and Reviews; (2) Program Variables, including (a) Definition of Response Modes, (b) Eliciting Desired Responses, and (c) Adaptation of Programs to Individual Differences; (3) Comparisons with Conventional Instruction; and (4) Trends and Problems. *(HumRRO)* **(193)**

STOLUROW, LAWRENCE M. **Teaching by machine** (Cooperative Research Monograph no. 6, OE-34010). Washington, D.C.: U.S. Department of Health, Education, and Welfare. Office of Education, 1961.

An extensive treatment of teaching by machine is presented in this report. Chapter headings are (1) Current Instructional Problems, (2) A Systems Approach to Instruction, (3) Teaching Machines, (4) The Learner, (5) Program and Programming Process, (6) Concepts and Techniques, and (7) Research Findings. *(HumRRO)* **(194)**

TABER, JULIAN I., ROBERT GLASER and HALMUTH H. SCHAFER. **Learning and programmed instruction.** Reading, Mass.: Addison-Wesley, 1965. 182 pp.

This book grew out of a manual developed for the Air Force. The authors' purpose in publishing is indicated by the following statement from the preface: "At the present stage of development of programmed instruction, there is little substitute for research, development, and demonstration. These efforts, however, must take place on the basis of underlying principles and not outward appearances. Most published programmed instructional materials have linear, small-step formats, but this format is based on some underlying knowledge about the learning process. The improperly initiated practitioner may learn only to imitate the format and ignore the principles. It is primarily for this reason that this book discusses principles as well as procedures." Content and organization are further indicated by chapter headings and selected topics within chapters: (1) Introductory Overview (instruction objectives; transfer of stimulus control; prompting and guided discovery; gradual progression; reinforcement; generalization and discrimination; understanding; empirical development); (2) Some Definitions and Operations in Learning and Instruction (behavior; stimuli; responses; response repertoires; reinforcement; extinction; recovery and warm-up); (3) Stimulus (Subject Matter) Control of Behavior (discriminative behavior; response chaining; motivational uses of terminal behavior); (4) Analysis of Instructional

Objectives and Subject Matter Units (a general procedure; specifying steps and sequences; task taxonomies); (5) The Frame Unit and Prompting Techniques; (6) Frame Sequences and Program Characteristics (special frame; introductory frame; discrimination, generalization, chaining, concept formation, practice, review, and terminal behavior sequences; linear and branching programs); (7) Program Development; (8) Data and Research Issues (use in school and industry; parametric baseline data; terminal behavior analysis; subject matter task properties and the learning process; assessment of entering behavior and aptitude; instructional sequencing; size of step; richness of experience; form of student response; learning rate; response feedback and reinforcement). References follow each chapter. There is a name and subject index. **(195)**

SYSTEMS THEORY AND APPLICATIONS

ADELSON, MARVIN. The systems approach–a perspective. **SDC magazine** 9:10, October 1966. pp. 1-3.

The systems approach is able to produce "demonstrably good" or defensible solutions which may take many forms. In each case the use of available techniques may be different; the systems approach is a creative process that includes arrangements for all appropriate sources to make relevant contributions. The systems approach is organized, creative, empirical, theoretical, and pragmatic. System analysis cannot or will not: provide a simplistic set of procedures to arrive at incontestable conclusions; do everything at once within available funds and manpower; guarantee, at least without considerable work, the transferability of techniques developed in other subject domains. **(196)**

COGSWELL, JOHN F. **The system approach as a heuristic method in educational development–an application to the counseling function** (SP-720). Santa Monica, Calif.: System Development Corporation, March 1962.

A preliminary analysis of the counseling function in a city school district is described. Hypotheses for systems research were stimulated by viewing the counseling function from the systems point of view, particularly strengthening the interaction between the counseling and teaching functions. *(HumRRO)* **(197)**

CORRIGAN, ROBERT E. and ROGER A. KAUFMAN. **Why system engineering**. Palo Alto, Calif.: Fearon Publishers, 1965. 71 pp.

This programmed book was written "to provide a thorough overview of the need for applying system engineering and system functional analysis methods as prerequisites to efficient total system designs." Drawings and flow charts illustrate the text which includes specific discussion of steps in system design. A self-test and a glossary of terms are included. **(198)**

EGBERT, R. L. and COGSWELL, J. F. **System design in the Bassett High School** (TM-1147). Santa Monica, Calif.: System Development Corporation, April 1963.

This report describes the use of system analysis and design techniques in connection with the development of a high school designed for continuous progress. *(HumRRO)* **(199)**

GAGNÉ, ROBERT M. Learning decisions in education. IN HIS **The conditions of learning**. New York: Holt, Rinehart & Winston, 1965. pp. 237-266.

The concept of an educational system as an arrangement of people and conditions whose purpose is to bring about learning is introduced. The following areas of decisions which affect the function of an educational system are discussed: learning objectives, the structure of knowledge to be learned, motivation, conditions for learning, the transferability of knowledge and assessment. There are 12 references. **(200)**

GAGNÉ, ROBERT MILLS (ed.). **Psychological principles in system development**. New York: Holt Rinehart & Winston, 1962. 560 pp.

The procedures for developing systems and the psychological principles of these procedures are described and explained. Each chapter describes techniques employed at a stage of development, gives examples, and discusses the relationships between the techniques and their psychology. Each chapter has a reference list; the entire book is indexed. Chapter titles and authors are: (1) Psychology and System Development, by John L. Kennedy; (2) Human Functions in Systems, by Robert M. Gagné; (3) Men and Computers, by Ward Edwards; (4) Human Capabilities and Limitations, by Joseph W. Wulfeck; (5) Human Tasks and Equipment Design, by J. S. Kidd; (6) Task Description and Analysis, by Robert B. Miller; (7) The Logic of Personnel Selection and Classification, by Paul Horst; (8) Aids to Job Performance, by J. Jepson Wulff; (9) Concepts of Training, by Meredith P. Crawford; (10) Training Programs and Devices, by William C. Biel; (11) Team Functions and Training, by Robert Boguslaw and Elias H. Porter; (12) Proficiency Measurements: Assessing Human Performance, by Robert Glaser and

David J. Klaus; (13) Evaluating System Performance in Simulated Environments, by Robert H. Davis and Richard A. Behan; and (14) The System Concept as a Principle of Methodological Decision, by John L. Finan. **(201)**

LIKERT, RENSIS. The need for a systems approach. IN HIS **The human organization: its management and values.** New York: McGraw-Hill, 1967. pp. 116-127.

The management system of an organization must have compatible component parts if it is to function effectively. Experiments in organizations must involve internally consistent changes. Because the organic integrity of each system must be maintained while experimental variations are being made, a systems approach must be used. A planned change should start by altering first the most influential causal variable; then there should be systematic plans to modify in coordinated steps all of the operating procedures which now anchor the organization to its present management system. The systems principle must also be applied to managerial development activities in order to ensure (1) consistency between the system of management of a company and the content of development programs for its managers, and (2) the internal consistency of content of management development courses. Successful business enterprises are characterized by internally consistent principles and procedures. The need for consistency and the systems approach must be considered in all (1) organizational research; (2) attempts to improve organizations by applying research findings; and (3) management development programs. **(202)**

MESAROVIC, MIHAJLO D. (ed.). **Views on general systems theory: proceedings of the second systems symposium at Case Institute of Technology.** New York: John Wiley & Sons, 1964. 178 pp.

The contributions comprising this book represent slightly revised versions of the talks delivered at the CAP Second Systems Symposium. The objective of the symposium was stated as the clarification of the following areas: (1) basic characteristics of general systems theory; (2) review of major developments achieved to date; (3) statement of current problems of importance; (4) prospect for the future. The contents are: (1) Foundations for a General Systems Theory, by M. D. Mesarovic; (2) General Systems as a Point of View, by K. E. Boulding; (3) The Concept of State in System Theory, by L. A. Zadeh; (4) General System Theory and Systems Research: Contrasting Conceptions of Systems Science, by R. L. Ackoff; (5) Constrained Extremization Models and Their Use in Developing Systems Measures, by A. Charnes and W. W. Cooper; (6) The Compleat Conversationalist: A "Systems Approach" to the Philosophy of Language, by H. Putnam; (7) The Abstract Theory of Self-Reproduction, by J. Myhill; (8) Entitation, Animorgs, and Other Systems, by R. W. Gerard; (9) Toward Approximate Analysis of Linear Dynamic Systems, by W. K. Linville; (10) Invariant Imbedding and the Analysis of Processes, by R. Kalaba; (11) System Causality and Signal Predictability, By R. F. Drenick; (12) Introductory Remarks at Panel Discussion, by W. R. Ashby; (13) Remarks on General Systems Theory, by A. Rapoport; (14) An Approach to General Systems Theory, by C. W. Churchman. An index is included. **(203)**

ODIORNE, GEORGE S. A systems approach to training. **Training directors journal** 19:10, October 1965. pp. 11-19.

The author declares that training can be systematized into eight different types which are explained, together with notes on the one to choose for one's own department. "Cybernetic systems–the modern approach" is described along with its advantages. References are included. *(USCSC 4, edited)* **(204)**

O'DONNELL, CYRIL J. Managerial training; a system approach. **Training and development journal** 22:1, January 1968. pp. 2-11.

The author explains the management process as a system so that those who are involved in management training can understand its real purpose. He discusses problems in managerial appraisal and management by results and declares that the end of management training must be improvement in the manager's ability to achieve his goals. *(USCSC 1, edited)* **(205)**

O'TOOLE, JOHN F. Approach to decision making in education. **SDC magazine** 8:7, July 1965. pp. 1-16.

The need is recognized for a systems analysis approach in designing and developing more effective educational enterprise. The central idea of the systems approach to educational system design is that functional components are interrelated and that a complex process can be understood best if it is treated as a whole. This approach views a system in the broadest possible perspective, including the system's surrounding social and economic environment, and it pays close attention to the information network binding the interacting elements of the system together. No single educational problem or organizational level of the system can be properly assessed or changed independently without consideration of the impact such modifications may have on other functions and levels of the system. A systems analysis should be focused in the nation's public education system from elementary level through the college level, and a research effort of unprecedented scope and magnitude should be put forth to answer critical questions about the future direction of our educational program. Four logical phases for the analysis to follow would be a socio-economic analysis, an analysis of educational technology research, a search for novel developments, and an evaluation of the overall results. The systems analysis approach would achieve several urgent objectives: identify deficiencies in education and focus attention on the need to improve the quality of the educational system; develop public awareness of the importance of education to national security and economic growth; impart knowledge of possibilities for long-term improvements in the educational system; define priorities for improving education and establish priority of educational improvements in relation to other national programs; and show the direction of continuing research and development for constantly upgrading the nation's educational enterprise. **(206)**

PORTER, ELIAS H. **Manpower development: the system training concept**. New York: Harper & Row, 1964. 131 pp.

Attention is given to the roles of the U.S. Air Force and the Rand Corporation's Systems Research Laboratory in this illustrated and indexed account of the evolution of "system training," presented so the reader can apply its ideas to his own concerns. Chapter titles are: Introduction: The Climate for Breakthrough; Systems, Components, and Organizational Behavior; Why Study Organizations?; Real-Time Problems and Scientific Method; Search and Serendipity; Field Test and Expansion; A Field Evaluation of Systems Training; Adaptations of System Training Concepts. **(207)**

PORTER, JOHN H. and PAUL SWADENER. The systems concept and quantitative analysis (Programmed learning material to supplement the chapter of the same title in **Business Administration, An Introductory Management Approach,** 3rd edition, by Arthur M. Weimer). Homewood, Ill.: Richard D. Irwin, 1966. 145 pp.

The booklet is arranged in four sections as follows: (1) the systems concept; (2) general models used in business decision making and the concept of optimization; (3) the technique of linear programming and its applications as an aid to decision making; and (4) game theory and decision making under conditions of uncertainty. A short summary of the materials covered is included at the end of the book. **(208)**

RYANS, DAVID G. A model of instruction based on information system concepts. IN Curriculum Research Institute. **Theories of instruction.** Washington, D.C.: Association for Supervision and Curriculum Development, 1965. pp. 36-61.

The paper suggests viewing the teacher and pupil as information systems. Several flow charts are included representing the teacher as an information processing system, the pupil as an information processing system, the inter-action of teacher-pupil-situation in the teaching-learning process, and the systemic integration of resources and media in conveying information to the pupil. A quantitative model is presented which may be characterized as an information processing or an information system conceptualization of instruction. Attention is directed first to some basic postulates and definitions to provide a basis for discussion of an information system or information processing theory of instruction. An outline of the instructional model is then presented. The topic headings are as follows: A Definition of Teacher Behavior; Some Postulates (seven postulates relating to the conceptualization of teacher behavior); Some Propositions Extending the Postulates; The Systems Concept (systems defined, inputs and outputs of systems); Information Defined; Information Processing (decision-making, programming of behavior information control); The Instructor as an Information Processing System; The Learner or Pupil as an Information Processing System; Integration of Information-Providing Sources; and Some Hypotheses Relating to the Model. References are included. **(209)**

SEILER, JOHN A. **Systems analysis in organizational behavior.** Homewood, Ill.: Richard D. Irwin, Inc. and The Dorsey Press, 1967. 219 pp.

Organizational behavior occurs in a system of interdependent forces. These forces can be analyzed and each set in the perspective of the others. The concepts of this indexed book are basic to schemes for investigating, diagnosing, and dealing with human-social aspects of problems in organizational settings. Several case studies are included. After an exploration of the character of systems and the categories of the scheme set forth the characters of four behavior-determining forces (inputs—human, social, technical, and organizational) and the dynamic nature of behavior itself are examined. The important elements of the framework are then reviewed and the relationships between analysis and action are discussed. **(210)**

STOLUROW, LAWRENCE M. **Some educational problems and prospects of a systems approach to instruction** (Technical report no. 2). Urbana, Ill.: University of Illinois, Training Research Laboratory, March 1964.

The implications of media for the concept of instructional systems are discused. Teaching by media implies a model of the instructional process. Media permit the analysis of instruction by being objective and repeatable. The computer is an especially promising tool. *(HumRRO)* **(211)**

The systems approach (entire issue). **Audiovisual instruction** 10:5, May 1965. 71 pp.

This issue of *Audiovisual Instruction* is devoted to an examination of the "Systems Approach" to instruction. The articles included are: (1) Systems: An Approach to Improving Instruction, (2) On the Design of Educational Systems, (3) Reply to Questions About Systems, (4) Educational Escalation Through Systems Analysis, (5) Standard Operating Procedures for a Learning Resources Center: A System for Producing Systems, (6) The Articulated Instructional Media Program at the University of Wisconsin, (7) First Steps in the Systems Approach, (8) Systems Analysis and Computer Simulation in the Implementation of Media, (9) An Experimental Program in Educational Adaptation (Case One), (10) An Experimental Program in Educational Adaptation (Case Two), (11) Multimedia Systems of Instruction, (12) Media Development: A Past of Instructional Change, (13) Afterthoughts on a Systems Conference, and (14) Not the Last Word on Systems. *(ASTD)* **(212)**

WALRATH, DONALD C. A systems approach to the training program. **Training in business and industry** 2:1, January-February 1965. pp. 22-24.

A systems approach to training is one that takes into account the importance of "human factors" or "human engineering" within an organization. Applied to industrial training, the systems approach implies that the training elements will be combined in a rational way to make up a complete system, affected not only by internal factors but by elements outside the training package, such as the attitude of the trainees toward the training or the "climate" in which the training takes place. A diagram showing the ideal situation for perfect performance of a man-machine system is presented and explained. The human and economic limitations that make the existence of such a system impossible are discussed, and the necessity for compromise is pointed out. Six common training "trade-offs" that can provide for acceptable compromises are discussed. Determination of training needs and methods are also discussed in relation to the systems approach. **(213)**

ROLE THEORY

BALES, ROBERT F. and PHILIP E. SLATER. Role differentiation in small decision-making groups. IN Parsons, Talcott and Robert F. Bales. **Family, socialization and interaction process.** Glencoe, Ill.: The Free Press, 1955. pp. 259-306.

Roles are usually differentiated from each other in a group which endures over any considerable time. The general forms and reasons for the development of such differentiation were studied in the research discussed here. Fourteen groups of from 3 to 6 men were observed through four sessions as they discussed an administrative problem case. Bales interaction categories were used in observation. Results are discussed in terms of the degree of consensus among members about roles and types of leadership which emerged. The importance of consensus in the structure and development of a group and the roles of task specialist and social-emotional specialist are discussed. Some comparisons with the typical nuclear family are made. **(214)**

BIDDLE, BRUCE J. and EDWIN J. THOMAS (eds.). **Role theory: concepts and research.** New York: John Wiley & Sons, 1966. 453 pp.

This book serves as a text explicating the concepts of role theory and as a collection of readings. It is intended to provide a comprehensive statement of the concepts, theory, and knowledge of role. Emphasis throughout is on theory, and no writings on techniques or applications of the role theory are included. The book is divided into 10 parts. The first two comprise the text portion and are titled: Part I, Background and Present Status–(1) The Nature and History of the Role Theory; Part II, The Conceptual Structure–(2) Basic Concepts for the Properties of Role Phenomena, (3) Basic Concepts for the Variables of Role Phenomena. The remaining eight parts, each with a brief introduction, comprise the collection of readings (47) by various authors, and topics covered are organized to progress from the simpler to the more complex, and from the more fundamental to the more complex. These parts are entitled (III) Positions; (IV) Prescriptions; (V) Descriptions; (VI) Performance and Interdependence; (VII) Differentiation, Specialization, and Division of Labor; (VIII) Consensus and Conflict; (IX) Sanctioning and Conformity; (X) Learning and Socialization. A comprehensive bibliography of over 1500 entries of books and articles on role theory published through 1964 is included, as well as an index of names and an index of subjects. **(215)**

COTTRELL, LEONARD S., JR. The adjustment of the individual to his age and sex roles. IN Newcomb, Theodore M. and Eugene L. Hartley (eds.). **Readings in social psychology.** New York: Henry Holt & Company, 1947. pp.367-370.

The concept of role is defined, and it is pointed out that "a consideration of adjustment to any social category role centers around two closely associated problems: (1) the adjustment to a role called for by the social category (in the present discussion, age-sex classes) to which the individual presently belongs; (2) the adjustment to the shifts in role made necessary by the progression from one category to another." A series of propositions (applicable to any social role) about conditions that facilitate or interfere with the effective learning of roles is presented. Psychosociological findings about how individuals make the transition from one developmental stage to the next are summarized. **(216)**

GOODE, WILLIAM. A theory of role strain. **American sociological review** 25:4, August 1960. pp. 483-496.

"When social structures are viewed as made up of roles, social stability is not explicable as a function of (a) the normative consensual commitment of individuals or (b) normative integration. Instead, dissensus and role strain–the difficulty of fulfilling role demands–are normal. In a sequence of role bargains, the individual's choices are shaped by mechanisms, outlined here, through which he organizes his total role system and performs well or ill in any role relationship. Reduction of role strain is allocative or economic in form, but the economic model is different. 'Third parties' interact with an individual and his alter, to keep their bargain within institutionalized limits. The larger social structure is held in place by role strains. The cumulative pattern of all such role bargains determines the flow of performances to all institutions. The research utility of this conception is explained" (journal summary). **(217)**

GRUSKY, OSCAR. A case for the theory of familial role differentiation in small groups. **Social forces** 35:3, March 1957. pp. 209-217.

The theory of role differentiation in small social systems presented by Parsons and Bales *(Family, Socialization and Interaction Process, 1955)* is empirically demonstrated in this paper which analyzes the behavior of a "natural" small group–the staff of a psychological clinic. Data from a study of the staff are consistent with Parson's generalization concerning the universality of the instrumental-expressive (or mother-father-like) role differentiation in small groups. The importance of taking power and power structures into consideration in a theory of familial role differentiation is elaborated. **(218)**

HODGSON, RICHARD C., DANIEL J. LEVINSON and ABRAHAM ZALEZNIK. **The executive role constellation: an analysis of personality and role relations in management.** Boston: Harvard University, Graduate School of Business Administration, Division of Research, 1965. 509 pp.

The primary aim of the study reported was to delineate the workings of the top executive echelon in one organization and to develop a comprehensive theoretical perspective for the analysis of executive groups generally. The role performances of psychiatrist-executives at the top echelon of a mental hospital are examined, the personal role-demands are analyzed, and the interpersonal dynamics that brought the executive role constellation into being are interpreted. **(219)**

JANIS, IRVING L. and BERT I. KING. The influence of role playing on opinion change. **Journal of abnormal psychology** 49:2, April 1954. pp. 211-218.

This experiment investigated the effects of one type of demand that is frequently made upon a person when he is induced to play a social role, namely, the requirement that he overtly verbalize to others various opinions which may not correspond to his inner convictions. Specifically, it was designed to determine whether overt verbalization induced by role playing facilitates opinion change. Male college students were assigned at random to two main experimental groups: (1) active participants who, with the aid of a prepared outline, played the role of a sincere advocate of the given point of view; and (2) passive controls who silently read and listened to the same communication. In the experimental sessions three different communications were used, each of which argued in favor of a specific conclusion about expected future events and was presented by a different active participant. Opinion measures obtained at the end of the session were compared with the "before" measures obtained about one month earlier. The main findings, together with various methodological checks, support the hypothesis that overt verbalization induced by role playing tends to augment the effectiveness of a persuasive communication. Additional observations are analyzed to explore possible mediating factors underlying the gain in opinion change because of active participation. A list of references is included. **(220)**

KAHN, ROBERT L., DONALD M. WOLFE, ROBERT P. QUINN and J. DIEDRICK SNOEK, in collaboration with ROBERT A. ROSENTHAL. **Organizational stress: studies in role conflict and ambiguity.** New York: John Wiley & Sons, 1964. 470 pp.

Using the framework of role theory, the book examines the pressures that occur in various echelons of modern, large-scale organizations and investigates their sources, consequences, and personal and social costs. The authors' thesis is that primary sources of individual tension are two of the most difficult and persistent problems of organization today, namely, conflicting demands and ambiguous requirements for behavior. Employing data obtained from intensive case studies as well as from a nationwide survey, the book shows how various positions in large-scale organizations of the type studied are differentially vulnerable to these problems. The dynamics of three major factors are discussed: the individual's position in the organization, the nature of his relations with his immediate associates, and his personality. It is shown that individual strategies for coping with conflict and ambiguity are directly influenced by personality characteristics and that these strategies often aggravate rather than ameliorate the stressful situation. **(221)**

LEVINSON, DANIEL J. Role, personality, and social structure in the organizational setting. **Journal of abnormal and social psychology**, vol. 58, 1959. pp. 170-180.

The paper has the following aims: (1) to examine the traditional conception of organizational structure and role to assess its limitations from a socio-psychological point of view; (2) to examine the conception of social role that derives from this approach to social structure and that tends, by definition, to include consideration of personality; (3) to provide a formulation of several analytically distinct role concepts to be used in place of the global term "role"; and (4) to suggest a theoretical approach to the analysis of relationships among role, personality, and social structure. References are included. **(222)**

LINTON, RALPH. Concepts of role and status. IN Newcomb, Theodore M. and Eugene L. Hartley (eds.). **Readings in social psychology.** New York: Henry Holt & Company, 1947. pp. 367-370.

The terms "status," "position," and "role" are explained and illustrated with examples from simple and complex societies. The disappointments and frustrations in our society due to the breakdown of an inherited system of statuses and roles is pointed out. **(223)**

MOMENT, DAVID and ABRAHAM ZALEZNIK. **Role development and interpersonal competence.** Boston: Harvard University, 1963. 346 pp.

This study traces the developmental issues involved in the variety of work styles that individuals establish in their interaction with others. It presents the results of a series of experimental studies of individual performance in problem-solving groups, and of the relationship between performance and individual motivation and development. "Change agents" are those who have the responsibility for initiating and facilitating change. Their job is to help the client system change itself toward increased competence in problem solving by helping individual clients change their behavior. Lasting behavioral changes involve changes in character structure. It is the change agent's job to determine when and how to intervene in the natural process to economize, facilitate, or accelerate the function. Types of intervention include traditional teaching (as through lectures), human relations training groups, and individual counseling or psychotherapy. Chapters following the introduction are: (2) Role Specialization and Fusion, (3) Behavior Patterns, (4) Predispositions for Role-Taking, (5) Social and Developmental Influences, (6) Satisfaction, (7) Developmental Trends, and (8) Implications for the Development of Administrators. Appendices describe the research operations and methods, exhibit questionnaire forms, and list background and motivation resources. An index and bibliography are included. **(224)**

NEIMAN, LIONEL J. and JAMES W. HUGHES. The problem of the concept of role–a re-survey of the literature. IN Stein, Herman D. and Richard A. Cloward (eds.). **Social perspectives on behavior–a reader in social science for social work and related professions.** Glencoe, Ill.: The Free Press, 1958. pp. 177-185.

The purpose of the paper is to survey the literature with specific reference to the use of the concept, "role." The method used was to survey systematically the literature in both books and journal articles in all possible fields, attempting to cover a period of approximately 50 years, from 1900 to 1950. The paper deals with the various definitions of role that have been used in the literature. **(225)**

OHLIN, LLOYD E. The reduction of role conflict in institutional staff. **Children** 5:2, March-April 1958. pp. 65-69.

A major reorganization and clarification of power, authority, and decision-making in the relationship between houseparents and social workers in an institution for delinquent girls resulted in increased staff harmony, an increase in treatment-relevant information for the social workers, and the provision to the girls of a united front on the part of the staff. **(226)**

SARBIN, THEODORE R. and NORMAN L. FARBEROW. Contributions to role-taking theory: a clinical study of self and role. **Journal of abnormal and social psychology** 47:1, January 1952. pp. 117-125.

The purposes of the paper are (1) to investigate the phenomenon of age regression and (2) to illustrate the heuristic value of the concepts of self and role. The pertinent features of age regression as a social psychological phenomenon are first reviewed, followed by brief examination hypnosis, the procedure that apparently facilitates age regression. The findings of the experiment, together with those of other investigations, are then discussed and interpreted with the concepts of role and self. A final section briefly formulates a general theoretical position that complex social and psychological phenomena can be more readily understood with the aid of self and role concepts. References are included. **(227)**

SLATER, PHILIP E. Role differentiation in small groups. **American sociological review** 20:3, June 1955. pp. 300-310.

The failure to consider simultaneously both psychological (personal need) and sociological (group need) aspects of role performance constituted a stumbling block in small-group research in the past. This paper illustrates the way in which consideration of both psychological and sociological factors may aid in the interpretation of tendencies for members of small experimental groups to behave in systematically differentiated ways. Twenty groups, of from 3 to 7 members each, met four times for a total of 80 meetings. These meetings were studied using Bales set of interaction categories for classifying discussion remarks and a questionnaire containing 4 questions concerning task leadership and social-emotional leadership ratings. Groups were rated as High status-consensus or Low status-consensus depending upon the amount of agreement among members concerning leadership ratings. Discussion of results emphasizes that a specialist in a group task-leadership function or social-emotional-leadership function in a Low status-consensus group may go through the same motions as such a specialist in a High status-consensus group, but for different personal needs and social purposes. Failure to consider such complex phenomena obscures understanding of small group relationships. **(228)**

SULLIVAN, HARRY STACK. **The interpersonal theory of psychiatry**. Edited by Perry, Helen Swick, and Mary Ladd Gawel. New York: W. W. Norton & Company, 1953. 391 pp.

This book embodies Sullivan's latest conceptions and was prepared from his last series of unpublished lectures. Basically, the interpersonal theory of psychiatry rests on the propositions that: (1) a large part of mental disorder results from and is perpetuated by inadequate communication, the communicative processes being interfered with by anxiety; and (2) each person in any two-person relationship is involved as a portion of an interpersonal field, rather than as a separate entity, in processes that affect and are affected by the field. There are 22 chapters divided into four main parts: (I) Introductory Concepts; (II) The Developmental Epochs (infancy through late adolescence); (III) Patterns of Inadequate or Inappropriate Interpersonal Relations; and (IV) Towards a Psychiatry of Peoples. An index is included. **(229)**

THEODORSON, GEORGE A. The relationship between leadership and popularity roles in small groups. **American sociological review** 22:1, February 1957. pp. 58-67.

The relationship between leadership and popularity roles in small groups, using cohesiveness as the intervening variable, is discussed. The hypothesis that under conditions of high cohesiveness members will most like those whom they perceive as contributing the most to the group, and that in low cohesive groups leadership and popularity are segmentalized roles, was supported in the case of the four groups studied–two laboratory groups and two "natural" groups. This hypothesis may be used to explain some seemingly contradictory findings of previous studies. If eventually verified, the hypothesis also offers a specific example of the changes in small group role structure usually assumed theoretically to accompany changes in cohesiveness. **(230)**

THOMAS, EDWIN J. Problems of disability from the perspective of role theory. **Journal of health and human behavior** 7:1, Spring 1966. pp. 2-13.

Two general topics are discussed, the first being the "roles" of the disabled. Five disability roles are described: the disabled patient, the handicapped performer, the helped person, the disability co-manager, and the public relations man. The second topic concerns the problems of role that may attend disablement: the role of discontinuity, role conflict, conflict of role definition, nonfacilitative interdependence, role strain, and the special difficulties of role synchrony. **(231)**

GROUPS–DYNAMICS, PROCESS, STRUCTURE

ADULT EDUCATION ASSOCIATION. **Understanding how groups work** (Leadership pamphlet no. 4). Chicago: Adult Education Association, 1956. 48 pp.

The articles in this pamphlet analyze different aspects of group interaction in an effort to understand how groups work. Some of the forces that can be seen when looking at groups as groups rather than simply as collections of individuals are described in "Pressures in Groups." "Diagnosing Group Problems" presents the basic steps and sensitivities needed to diagnose the real cause of disruptive group behavior. Three conflicts that all gatherings of individuals face in the process of becoming groups and that need to be resolved one way or another before the members can work together with trust and ease are described in "Some Basic Issues." "When They Fight," "It's Apathy If," "Indecision," and "The Hidden Agenda" describe four types of behavior that commonly trouble groups and suggest the kinds of underlying problems these behaviors often indicate. "Improving Group Efficiency" suggests a number of ways in which groups may learn to increase their sensitivity to their own process. **(232)**

BALES, ROBERT F. **Interaction process analysis; a method for the study of small groups**. Cambridge, Mass.: Addison-Wesley, 1951. 203 pp.

Interaction process analysis is a term which designates a body of methods for firsthand observation of social interaction in small face-to-face groups. This volume is a working manual of the method. Chapters are: (1) Descriptions of the Method; (2) Theoretical Framework; (3) Training Observers; (4) Appraising Observer Reliability; and (5) Analysis and Interpretation. The appendix contains definitions of the categories used in describing interaction. Various phases of the method are illustrated by 35 charts. There is a 31-item bibliography and an index. **(233)**

BALES, ROBERT F. and HENRY GERBRANDS. The "interaction recorder": an apparatus and check list for sequential content analysis of social interaction. **Human relations** 1:4, August 1948. pp. 456-463.

A detailed description with illustrative plates is given. A checklist enumerating interaction categories is also provided. This list categorizes the various actions and reactions of the subject when interacting with others according to whether solidarity, release of tension, reaching solutions, proposing actions, analyzing, reporting facts, opening problems, finding difficulties, personal opposition, or negative reactions are apparent. **(234)**

BALES, ROBERT F. and FRED L. STRODTBECK. Phases in group problem-solving. **Journal of abnormal and social psychology** 46:4, October 1951. pp. 485-495.

"This paper presents a method of testing for the empirical existence of differentiated phases in group process and some evidence that under certain particular conditions a certain type of phase movement does tend to appear. . . . The present phase-hypothesis is restricted to instances in which groups work toward the goal of a group decision on a full-fledged problem. Briefly stated, the phase-hypothesis is the proposition that under these conditions groups tend to move in their interaction from a relative emphasis upon problems of *orientation*, to problems of *evaluation*, and subsequently, to problems of *control*, and that concurrent with these transitions, the relative frequencies of both *negative reactions* and *positive reactions* tend to increase." (The terms used in the hypothesis are explained in the text and in a table of 12 interaction categories.) Observation of 22 problem-solving groups supported the hypothesis and suggested that "the interaction process should be considered as a system, with internal tendencies which make each part of the process a condition to other parts. These 'internal' conditions are assumed to be similar to some degree from case to case and to exert a constant 'biasing' effect. This effect becomes apparent within individual cases under full-fledged external conditions or in aggregates of cases in which differences in external conditions average out." Thirteen references are cited. **(235)**

BEAL, GEORGE M., JOE M. BOHLEN and NELL J. RAUDBAUGH. **Leadership and dynamic group action.** Ames, Iowa: Iowa State University Press, 1962. 365 pp.

The book is directed to lay readers in search of ways to enhance the results of their group activities and is designed to be a practical guide to effective group leadership and membership. The logic of individual behavior in a group setting is developed. The general framework of group behavior, which is the theme of the book, provides the specific points which are elaborated upon. Part and chapter titles describe the contents: Part I, Group Interaction–(1) Introduction; (2) Democracy and the Democratic Group; (3) Leadership in the Democratic Group; (4) A Framework for the Study of Group Action; (5) The Individual and the Group Setting; (6) The Internal Dynamics of Groups; (7) The External Dynamics of Groups; (8) Group Goals and Objectives; (9) Group Techniques; (10) Group Productivity, Maturity, and Worth; (11) Group Evaluation; Part II, Techniques–Small Group Discussion–The "Huddle" Method; The "Buzz Group" Method; The Symposium; The Panel Discussion; The Interrogator Panel; The Committee Hearing; The Dialogue; The Interview; The Lecture; Brainstorming; Role-Playing; Recreational Activities; Working with Large Groups; Workshops; Conferences; Institutes; Part III, Evaluation–(1) End-of-Meeting Comments and Suggestions; (2) More Basic Group Evaluation; (3) Evaluation of Content and Objectives; (4) Evaluation and Individual Contributions; (5) Group Observer Devices; (6) Group Observer Evaluation of Individual Participation; (7) Sociometry; and (8) Using Evaluation. A suggested reading list and an index are included. **(236)**

BENNE, KENNETH D. and WARREN G. BENNIS. Studying the classroom as a group. **Phi Delta Kappan** 39:6, March 1958. pp. 274-279.

An attempt by the teachers and students of a course in group behavior to apply current knowledge of small group behavior to the control and management of classroom behavior is described and assessed. The course was designed to promote conscious diagnosis of the interpersonal and group problems in classroom behavior, and by doing so to extend the student's knowledge of small group behavior in relation to teaching and learning. The primary questions investigated were the role of teachers in learning, the role of the students, student self-concepts, types of learning achieved, increase of usable knowledge, and the predicted transfer of learning from the course. **(237)**

BLAU, PETER M. Structural effects. **American sociological review** 25:2, April 1960. pp. 178-193.

"In empirical research, social structures are usually characterized, explicitly or implicitly, by frequency distributions of behavior of individuals or relationships among them. Thus, the common culture refers to prevailing values, and group cohesiveness, to pervasive interpersonal bonds. To isolate the external constraints of social values from the influences of the individual's internalized values, that the prevalence of a value in a group is associated with social conduct when this value is held constant for individuals must be demonstrated. Data from a public assistance agency show that the prevailing values in a work group had such structural effects. In some cases, the group value and the individual's orientation had similar, but independent, effects on his conduct; in other cases they had opposite effects; in still others, the effects of the individual's orientation were contingent on the prevalence of this orientation in the group, a pattern which identifies characteristics associated with deviancy. The same procedure was used to isolate the structural effects of cohesiveness and the communication network" (journal summary). **(238)**

BRADFORD, LELAND P. (ed.). **Group development** (Selected reading series no. 1). Washington, D.C.: National Training Laboratories and National Education Association, 1961. 106 pp.

The need for understanding group behavior is found wherever individual goals must be merged with the goals of others. The forces engendered within groups are potent determiners not only of morale but of productivity. The necessity of studying group behavior is apparent. The articles in this pamphlet deal with various aspects of group behavior. Articles in this collection include: What Is Group Dynamics?; Group Dynamics and the Individual; The Individual Counts . . . in Effective Group Relations; How to Get Results from a Group; How to Diagnose Group Problems; Functional Roles of Group Members; The Case of the Hidden Agenda; Decisions . . . Decisions . . . Decisions; Stereotypes and the Growth of Groups: Feedback and Group Self-Evaluation; Improving Decision-Making with Groups; and Developments in Group Behavior in Adult Education. **(239)**

BURTON, WILLIAM H. Group roles with special responsibility to the group. IN HIS **The guidance of learning activities**. 3rd edition. New York: Appleton-Century-Crofts, 1962. pp. 206-210.

The major specialized roles in a group are those of leader, recorder, observer, and resource person. There are two types of leaders, status and shared. Status leaders occupy their positions through appointment, election, ownership, or force. Democratic status leadership substitutes leadership for authority; it is shared by anyone who offers a suggestion or argument. The jobs of the status leader and the appointed leader are to start discussion, keep it going, and indicate the need for responsibility. The recorder records major issues and pertinent comments. The observer concentrates on method or process of discussion to the exclusion of content, and provides feedback for the group. The resource person provides special information. David Jenkins' Group Discussion Observation Guide is reproduced; an observer's chart indicates the group interaction. **(240)**

CARTWRIGHT, DORWIN and ALVIN ZANDER (eds.). **Group dynamics: research and theory**. 2nd edition. New York: Harper & Row, 1960. 826 pp. [3rd edition, 1968, is now available]

The book is divided into six sections and contains 42 papers by various authorities in the field. Sections are: (I) Introduction to Group Dynamics (origins, issues, and basic assumptions); (II) Group Cohesiveness; (III) Group Pressures and Group Standards ; (IV) Individual Motives and Group Goals; (V) Leadership and Group Performance; (VI) The Structural Properties of Groups. References follow each paper. There is a name and subject index. **(241)**

CATH, STANLEY, H. The student-teacher alliance and the formation of the professional ego: an experiment in small-group seminars in the second year of medical school. **International journal of group psychotherapy** 15:7, July 1965. pp. 303-315.

A small group seminar designed to combat cynicism and the inability to establish doctor-patient responses in medical students disclosed the formation of the professional ego in these groups. The psychiatric instructor acts as a model for the students, providing expression of their doubts, insecurity, and condemnation of the handling of patients. This focus on the doctor-patient relationship increases understanding of it and creates healthier reactions in students. The group setting provides a catalytic agent for learning concepts. values, and ego ideals. Student anxiety in the face of illness and death is assumed to be implicit but unfelt and is approached through group discussion of the anxiety of the patient until the student becomes aware that he responds in the same way. **(242)**

COLLINS, BARRY E. and HAROLD GUETZKOW. **A social psychology of group process for decision-making**. New York: John Wiley & Sons, 1964. 254 pp.

A systemizing of the findings in social psychology relevant to the group processes involved in decision making is attempted here. A blend of theorizing and empirical review (of selected studies) called an inductive summary and theory of face-to-face group processes is the goal. Studies in both field and laboratory settings, as well as data obtained from many different kinds of experimental subjects, were used in support of the various conceptions presented. Chapter titles are: (1) Building a Social Psychology of Group Processes for Decision-Making; (2) Group and Individual Performance; (3) Group Productivity: Interpersonal Relations and the Task; (4) A Simple Working Model of Factors Molding Interpersonal Behavior and Task Performance; (5) Obstacles to Effective Interpersonal Relations in a Group; (6) Direct Sources of Power and Interpersonal Influence; (7) Indirect Sources of Power in Decision-Making Groups; (8) Consequences of Small and Large Amounts of Power for the Behavior of Group Members; (9) Communication and Interaction; (10) Participant Satisfaction with the Conference; and (11) Leadership: Leadership Traits and the Differentiation of Leadership Roles. Each chapter contains a summary and an optional section defining special terms and formulating working propositions. A bibliography and author and subject indexes are included. **(243)**

GHISELLI, EDWIN E. Psychological properties of groups and group learning. **Psychological reports** 19:1, August 1966. pp. 17-18.

Twenty groups of students were given the task of learning to operate a model railroad which required the coordinated action of the members. The results indicated that if the group consists of self-confident decision makers, possesses one person outstanding in this quality, or consists of individuals strongly oriented to others, the initial performance is poor. The more intelligent the members of the group are, the better is their initial performance; and if the group contains a person who is uncontested as a self-confident decision maker, its performance at later stages in learning is better. *(ASTD, edited)* **(244)**

GIBB, JACK R., and others. **Dynamics of participative groups**. Washington, D.C.: National Education Association, National Training Laboratories, 1966. 89 pp.

Through university laboratory experiments, field observations in industrial, community, and educational settings, and experiences in classes in group dynamics, the participative action method of group training for more effective problem solving and decision making was developed. It is based on eight principles—physical regrouping, reduction of interpersonal tensions, informality of procedure, freedom of choice, distributive leadership, explicit goal formation, skill training, and continual evaluation. This handbook, a series of study guides and training procedures, can be used as a manual for college classes in group dynamics and human relations training, as a reference book for staffs and committees, and as a source book and discussion guide for seminars and study groups. Methods of group action, the role of the group member and trainer, suggestions for workshops and conferences, applications to educational, industrial, religious, military, and adult education programs, and a selected, classified list of 102 references are included. *(ERIC)* **(245)**

GLASER, WILLIAM A. and DAVID L. STILLS. **The government of associations: selections from the behavioral sciences.** Totowa, N.J.: The Bedminster Press, 1966. 264 pp.

The focus of this collection of readings is on the organization, activities, and accomplishment of voluntary associations. The book consists of 47 selections from books, journals, and research reports in the behavioral sciences. Twenty-seven of the 50 contributors are sociologists; six are political scientists; and four are from the fields of anthropology, business administration, and social work. Selections are grouped in four major sections and 14 subsections: Part One, Voluntary Associations: An Overview—(1) The Social Origins of Voluntary Associations, (2) Types of Voluntary Associations; Part Two, Voluntary Associations and Their Environment—(3) Social Influences upon the Membership, (4) The Association's Influence upon Society, (5) Voluntary Associations in Other Societies; Part Three, The Nature of Leadership—(6) Three Theories of Leadership, (7) The Effects of Leadership; Part Four, Problems of Government—(8) Organizational Structure, (9) Organizational Processes, (10) Communications and Decisions, (11) Organizational Goals, (12) Organizational Means, (13) Internal Divisions, (14) Organizational Change. An index of names of organizations is included. **(246)**

GOLEMBIEWSKI, ROBERT T. **The small group: an analysis of research concepts and operations.** Chicago: University of Chicago Press, 1962. 303 pp.

This study deals with the literature of the small group, judging to what extent it has reached valid conclusions that can serve as bases for research in a developing science. The aim in comparing these concepts is to determine how much the analysis of small groups must unify its concepts and operations before integration and synthesis can occur. Chapter titles are: The Small Group: Introduction and Sketch of an Application; Designational Divergence and Analytical Pitfalls; Small-Group Dimensions I: Two Comprehensive Approaches; Small-Group Dimensions II: The Structural Panel of Variables; Small-Group Dimensions III: The Style Panel of Variables; and The Population Panel of Variables: Effects upon Small-Group Properties. Each chapter includes a summary of findings. The study is indexed. **(247)**

HARE, A. PAUL. **Handbook of small group research.** New York: The Free Press, 1962. 512 pp.

As indicated in the introductory abstract of the handbook, essentially the same material on small group research is organized in three main parts: (1) the first considers the central tendencies of the interaction process and group structure; (2) the second emphasizes the deviations from typical patterns that may result from variations in such factors as members' personalities, group size, and leadership; and (3) the third reviews differences in productivity related to variations in group process and structure. Part and chapter titles are: Part One, Group Process and Structure—(1) Elements of Social Interaction, (2) Norms of Social Control, (3) Interaction and Decision Process, (4) Roles, (5) Interpersonal Choice; Part II, Six Variables That Affect the Interaction Process—(6) Personality, (7) Social Characteristics, (8) Group Size, (9) Task, (10) Communication Network, (11) Leadership; and Part III, Performance Characteristics—(12) Productivity: Individual Versus Group, (13) Productivity: Group Versus Group. There are two appendixes entitled (1) Research Methods and (2) Factor Analysis. References and indexes are included. **(248)**

HARE, A. PAUL, EDGAR F. BORGATTA and ROBERT F. BALES (eds.). **Small groups: studies in social interaction.** New York: Alfred A. Knopf, 1961. 666 pp.

Fifty-five essays by various experts in the field of small group theory and research are presented. The book is divided into four parts: the first part is concerned with the historical and theoretical background of the field; the second contains a collection of studies that view the social process from the perspective of the single individual in a social situation; the third contains studies in which the perspective is more that of an external observer viewing the group as a system of social interaction and describing its characteristics; and the final part is a guide to the research literature in the field in the form of an annotated bibliography of about 580 titles. **(249)**

HARRISON, ROGER. Cognitive models for interpersonal and group behavior: a theoretical framework for research. **Explorations in human relations training and research**, no. 2, 1965. 112 pp.

"The purpose of this paper is to present a cognitive and perceptual approach to understanding the process of learning and change in face-to-face groups, and to outline a program of research based on this approach." It is considered relevant to practice in higher education, group psychotherapy, human relations training, and the management of organizational change. A cognitive model of T-group training is proposed in which the process of learning is seen as consisting of the development, differentiation, and elaboration of a system of concepts or constructs which fit and structure the personal, interpersonal, and group phenomena of the T-group experience. Based upon the conceptual analysis of the learning process, a program of research is proposed involving (1) development of instruments for measuring change in cognition of persons and groups; (2) prediction and assessment of conceptual changes induced by the T-group experience; and (3) investigation of the relationships between initial structures for cognizing interpersonal and group phenomena and the extent and nature of change. Thirty-one references are cited. **(250)**

HEINICKE, C. and R. F. BALES. Developmental trends in the structure of small groups. **Sociometry**, vol. 16, 1953. pp. 7-38.

"Various aspects of the development of status structure were studied in a number of newly formed initially leaderless groups during a series of meetings under reasonably constant laboratory conditions. The subjects were asked to discuss and solve a human relations problem within a period of about 40 minutes. The successive meetings of ten small groups of undergraduate students were observed using Bales interaction category system. Observer ratings and subjects' ratings of each other were also available as sources of data. To analyze the developmental trends of the groups, they were divided into a High and Low status-consensus classification. The analysis of trends was organized in terms of five main hypotheses, all of which receive substantial support from the data." The hypotheses relate to (1) developmental trends in status consensus in High and Low groups; (2) overt social-emotional conflict; (3) a decrease in initiation by high status individuals in High groups of overt interaction in categories highly associated with status; (4) more satisfaction by High groups with their group and its solutions than by Low groups; and (5) more efficiency in High groups than in Low. Findings in support of the hypotheses are discussed in more general terms. Eight references are cited. **(251)**

HOFFMAN, J. M. and J. ARSENIAN. An examination of some models applied to group structure and process. **International journal of group psychotherapy** 15:2, April 1965. pp. 131-153.

An adequate model for understanding the formation and process of small groups should specify: (1) the composition of the group, the level, and the permeability of boundary; (2) the degree of differentiation and freedom of movement of the components of the group; (3) the nature of leadership functions and the distribution of deference; (4) how the interaction process has been initiated; (5) the bases for ongoing interaction; (6) the nature of communication, cooperation, and competition; (7) the group's orientation to time; and (8) the tangible or intangible product or goal resulting from the process. Metaphor models in current usage include those of cell body, personality, machine, mythology, economic group, animal group, family, and tribe. None of these demonstrate point-to-point convergence with the phenomenon to which it is applied. They do not offer maximum descriptive power and utility. Beyond the points of convergence their application acts, in part, to obscure. *(ASW, edited)* **(252)**

HOPKINS, TERENCE K. **Exercise of influence in small groups**. Totowa, N.J.: The Bedminster Press, 1964. 205 pp.

This book attempts to answer two central questions about the difference in influence among group members: what factors govern the distribution of influence among members of a group, and under what conditions does this distribution remain relatively stable? The analysis proceeds in two steps corresponding to these two questions. The first part of the book presents a set of propositions describing the relationship among four properties of the status of members–rank, centrality, conformity, and observability–and between each of these and the influence a member exercises. The propositions are considered in some detail each being weighed against current theory and against available data for its plausibility. In the second part the propositions are related to a basic group process, the principal tendency of which is to bring into balance, over a group's set of members, the distribution of rank and influence. The analysis in this part focuses on various institutional and structural features of groups that help stabilize the distribution of influence. **(253)**

KELLY, HAROLD H. and JOHN W. THIBAUT. Experimental studies of group problem solving and process. IN Lindzey, Gardner (ed.). **Handbook of social psychology**, vol. II. Cambridge, Mass.: Addison-Wesley, 1954. pp. 735-785.

The chapter is intended to summarize the literature on the experimental investigation of problem solving by small groups. The focus of the study is on the communication process and the interaction involved in producing group solutions to various types of problems. The study considers a broad range of factors that are known to affect group process and examines them as they relate to group problem solving. The main discussions within the chapter are: Experimental Comparisons of Individual and Group Problem Solving; Theoretical Analysis of the Factors Uniquely Affecting Group Solutions; Some Specific Factors Affecting Group Solutions; Trends in Research on Group Problem Solving. **(254)**

KNOWLES, MALCOLM and HULDA KNOWLES. **Introduction to group dynamics.** New York: Association Press, 1959. 95 pp.

An introduction to the basic principles of group dynamics is presented. The book is intended for the general reader and requires no particular background. Chapter titles and topic headings describe the contents: (1) What Is Group Dynamics? (Four Uses of the Term, Historical Perspective, The Modern Era, Different Approaches to the Study of Groups); (2) Understanding Individual Behavior (Life History Forces, Forces Based on Psychological Needs, Associational Forces, Forces from Goals and Ideologies); (3) Understanding Group Behavior (What Is a Group, Some Properties of Groups, Psyche and Socio Dimensions, Membership and Leadership Functions, The Role of Leadership, Groups in Motion, Some General Principles); (4) Practical Applications (Leadership and Membership Training, Invention of New Techniques, The General Spirit of Group and Large Meetings, Community Relations and Social Change); (5) What Does It Add up To?; (6) Readings for Further Understanding. An index is included. **(255)**

LIBO, LESTER M. **Measuring group cohesiveness.** Ann Arbor: Research Center for Group Dynamics, Institute for Social Research, 1953. 111 pp.

The projective technique and a behavioral measure involving locomotion of attraction-to-group are emphasized in this treatment of the central concepts of group dynamics theory. Other methods of measurement and experimental manipulation of group-related variables in the laboratory are also explored. Chapters are: The Concepts of Cohesiveness and Attraction-to-Groups; An Experimental Study of Attraction-to-Groups; The Group-Picture-Impression Technique: A Projective Approach to the Measurement of Attraction-to-Group; and The Group-Picture-Impression Manual. A bibliography and miscellaneous exploratory studies are appended. **(256)**

LIFTON, WALTER M. **Working with groups: group process and individual growth.** New York: John Wiley & Sons, 1961. 238 pp.

Designed for use by teachers, social workers, counselors, psychologists, and laymen who are seeking to acquire the skills and knowledge that are prerequisite to working with groups, the book develops a major premise that there is no necessary contradiction between individual growth and societal, or group, process. How group action can be a source and a means of freeing the individual rather than enslaving him is a principal thesis of the book. Both background theory concerning the issue as a whole and guides to practical applications of conclusions resulting from various studies are presented. Initial chapters summarize issues involved in group process and define terms employed in the text. The middle sections offer descriptions, analyses, and interpretations of several group situations, followed by resumes of writings with counter-interpretations of the concepts explored. Final chapters are designed to help the reader to evaluate himself and the groups with which he works. Chapters are: (1) Group Process and Individual Growth; (2) Theories, Professional Jargon, and Definitions (Education and Therapy, A Group versus a Mass, The Group Dynamic Approval, The Common Denominations, Restatement of the Philosophy Expressed in this Text); (3) The Tools and Techniques Involved in the Helping Process (Clarifying Operations, The Show-How Operations, Security-Giving Operations); (4) A Group in Action; (5) Typical Problems in the Group Process (The Initial Leader, Voluntary and Involuntary Groups, Group Composition, Out-of-Group Sessions, Group Size, Length of Group Life–Fixed and Continuous Groups, Admitting New Members, The Silent Member, Silence in the Group, The Missing Member, The Missing Leader, The Monopolist, Resistance, Catharsis, The Role of Strategies, Decision Making–To Vote or Not to Vote, Responsibility in a Group, Other Tools and Techniques); (6) Group Techniques Applied (Orientation, Group Guidance Programs, Group Techniques in the Subject Matter Classroom, Identifying Group Goals, Using Records for Self-Evaluative Purposes, Effect of the Course upon the Author, As Applied to a Workshop, Studies on Work with Failing and Underachieving Students, Student Councils, Moral and Spiritual Values, Group Techniques in Developing a Program); (7) Evaluation and Research (Evaluation–Group Growth, Individual Growth, A Comparison of Self with Others, Research–Summary, Bibliography, and Bibliography of Doctoral Dissertations); (8) Conclusion. The appendix contains A Diary Report of the Complete Life of a Group. Each chapter is followed by a discussion and a bibliography. There is an index. **(257)**

LIPPITT, GORDON L. (ed.). **Leadership in action** (Selected Reading Series no. 2). Washington, D.C.: National Training Laboratory and National Education Association, 1961. 96 pp.

Leadership is difficult to define because it has complex dimensions, exists in highly diverse situations, and manifests differing effects of power. Theoretical approaches used in various research studies are covered in "Scientific Spotlight on Leadership," "What Do We Know About Leadership," and "Research Trends in Executive Behavior." Studies and theories about the group leadership role and functions are discussed in "Leaders Are Made, Not Born," "New Questions for Old," "Leadership and Group Behavior," and "Leadership in Small Groups." Leadership in organizations is discussed in "Leadership Within a Hierarchical Organization" and "A Fundamental of Democracy." Ethics are covered in "Building a Democratic Work Group" and "Ethics of Leadership." Leadership, as it varies with organizational goals, situational dynamics, individual leadership, and the group being led, is discussed in "Leadership: A Conception and Some Implications," and "How to Choose a Leadership Pattern." Some essential elements in the growth of any action leader are examined in "Elements of Leadership Growth." **(258)**

LIPPITT, GORDON L. and EDITH W. SEASHORE. **The leader looks at group effectiveness** (Looking Into Leadership Series). Washington, D.C.: Leadership Resources, Inc., 1961. 13 pp.

Seven questions often asked about groups are cited as introduction to the discussion. Results of group research are summarized and guidelines for assessing group effectiveness are provided. The behavior of a group may be analyzed in terms of the following factors (which are discussed): background, pattern of participation and communication, atmosphere and cohesion, sub-groupings, standards, procedures, goals, leader and member behavior. Group task and maintenance functions are elaborated. Characteristics which indicate maturity in a group are cited and questions for leader self-appraisal are offered. A scale for measuring group growth on eight dimensions and a briefly annotated 7-item reading list are included. **(259)**

MAIER, NORMAN R. F. and L. RICHARD HOFFMAN. Acceptance and quality of solutions as related to leaders' attitudes toward disagreement in group problem solving. **Journal of applied behavioral science** 1:4, October-November-December 1965. pp. 373-386.

An experiment was designed to test the hypothesis that (1) disagreement in a discussion can lead either to hard feelings or to innovation depending upon the attitude of the discussion leader; and (2) acceptance will depend upon the leader's perception of disagreement as well as upon the decision reached. The test situation utilized a role-playing format in which a foreman attempted to induce three subordinates to accept a change in work methods. Measures of the negative vs. positive effects of disagreement were obtained by the frequency with which the discussion leader reported having problem employees vs. idea men in his group. "The results showed that when the foreman most often reported having problem employees, solutions were least likely to be innovative and acceptance was relatively low. When the foreman perceived his subordinates as idea men, innovative solutions increased and satisfaction with the solution was greatest for all concerned, despite the fact that all persons involved had to change their initial positions. Although previous research has indicated that satisfaction is a function of influence over the decision, regardless of its quality, this experiment supplies evidence that the quality of the solution can introduce a further source of satisfaction. This occurs when a solution is one that resolves differences and integrates differing viewpoints to form a new and better product. *(ASTD)* **(260)**

MANN, RICHARD D. Dimensions of individual performance in small groups under task and social-emotional conditions. **Journal of abnormal and social psychology** 62:3, 1961. pp. 674-682.

Considerable attention has been directed to the search for a minimum number of dimensions in terms of which to describe a person's overt behavior and informal status in small groups. Factor analytic techniques have been used to isolate these basic dimensions. Carter (1954) proposed three basic factors: Individual Prominence and Achievement, Aiding Attainment by the Group, and Sociability, which Bales (1956) labeled Activity, Task Ability, and Likeability. Questioning of the disparity in results of subsequent testing for these factors led to the author's doctoral dissertation upon which this article is based. The purpose of the research was to determine what effect varying the group problem (in terms of task or social-emotional conditions) would have upon the dimensions of individual performance. In the Task condition the group was oriented to an external problem, an intellectual task, and in the Social-Emotional condition a topic of high personal relevance created problems of integration and tension reduction. Twenty five-men groups were run under each conditon. Two major results were: (1) A Task Prominence factor was isolated which suggested a combination of the Carter-Bales Activity and Task Ability dimensions; and (2) the need for a more complex interpretation of Likeability was suggested. Premature closure on any set of performance factors should be avoided until more is known about the effect that variation in the situation, the size and nature of the group, or other experimental procedures has upon the resultant factor structure. Some of the outlines of the more complex view of performance factors that may emerge from such needed research are suggested by the present study. Ten references are cited. **(261)**

MANN, RICHARD D. **Interpersonal styles and group development: an analysis of the member-leader relationship.** New York: John Wiley & Sons, 1967. 308 pp.

The primary focus of the study is on the changing relationship between the members of four classroom discussion groups and their formal leader. Chapter 1 presents an overview of the conceptual and methodological strategy adopted for the study. Chapters 2 and 3 outline the kind of self-analytic group being studied and the observation system used as the core of the research method. Chapter 4 sets up a conceptual framework for the analysis of an individual's performance, the emphasis being on the connections between the feelings expressed and the antecedent relationships that seem to be serving as models for the individual's experience. In Chapter 5 an analysis of the leader's role and the influence he exerts upon the process being observed is presented. Chapter 6 treats the development of the group as a whole in terms of the shifting arrays of subgroups that seek to determine the course of the group. Chapter 7 returns to the individual level to explore the career of the group member and to see how the commonly observed member-leader relationships contribute to and are shaped by the development of the group. In the concluding chapter a conceptual scheme for analyzing an individual's feelings and actions in groups is developed. An index and references are included. **(262)**

McGRATH, JOSEPH E. and IRWIN ALTMAN. **Small group research: a synthesis and critique of the field.** New York: Holt, Rinehart & Winston, 1966. 601 pp.

The aim of the book is threefold: (1) to make available a compilation of research information from more than 250 small group studies; (2) to present perspectives about substantive, methodological, and institutional characteristics of the field; and (3) to present the research program out of which the book grew as a case history in the classification and synthesis of scientific knowledge. Accordingly, the book is divided into three parts entitled: Classification of Small Group Research Information: a Case Study; Perspectives on the Small Group Field; and Catalogue of Relationships, Annotations, and Bibliography with Addenda. Chapters are entitled: Introduction; The Problem and Its Background; The Classification System; A Validation of the Classification System; Evaluation, Modification, and Implications of the Classification System; Descriptive Characteristics of the Small Group Field; Generalizations from Small Group Research Data; Methodology of Small Group Research: Problems and Prospects; The Culture of the Small Group Research Field; References; Catalogue of Relationships between Variables; Study Annotations; Bibliography of Small Group Research. **(263)**

MILLS, THEODORE M. **Group transformation: an analysis of a learning group.** Englewood Cliffs, N.J.: Prentice-Hall, 1964. 120 pp.

The transformations of a single group as it gathers, forms, operates, and dissolves, and as these changes are detected by a systematic analysis of the content of each event that occurs are described. Empirical trends lead to a conception of the life cycle of groups which, it is hoped, will serve as a useful guide to leaders, members, and those interested in human groups. The essential group theory that emerges from the study is threefold: (1) groups are open, not closed systems; (2) all small groups die; (3) group mechanisms are contingent upon boundaries. The contents are: Introduction; The Group; The Method of Sign Process Analysis; The Chronology of Negative and Positive Scenes; Group Issues and Data Trends; Toward a Conception of the Life Cycle of Groups; Two Dynamic Issues; and Summary and Conclusions. An index is included. **(264)**

MILLS, THEODORE M. **The sociology of small groups.** Englewood Cliffs, N.J.: Prentice-Hall, 1967. 136 pp.

Four specific aims of the book are (1) to introduce the sociological way of thinking about groups; (2) to acquaint the reader with the social context in which the investigator gathers his basic information about groups; (3) to introduce the five levels on which group processes occur: behavior, feelings, norms, goals, and values, and to relate those levels to the subjective experience of group members; and (4) to introduce the view that the group as a whole is a dynamic system with potential for change and growth. Selected references and an index are included. **(265)**

MILTON, G. A. Group vs. individual problem-solving and decision-making. **Canadian public administration** 8:3, September 1965. pp. 301-306.

The purpose of this series of experiments dealing with management processes was to test the following predictions: "(1) On intellectual, problem-solving, and decision-making tasks, individual processes are superior to group processes; (2) Group members feel that group procedures are superior because each member feels that he is participating in all group solutions and decisions and therefore he feels that he is being more creative than when working independently." From the 48 subjects, all of varying executive experience, it was found that group processes are inferior to individual processes when applies to intellectual tasks; and it was suggested that the generalization will hold for any group procedure. It was also found that group processes engender greater enthusiasm for a task, regardless of lowered efficiency. The latter finding points up a potential value in using group procedures. *(ASTD)* **(266)**

MURSELL, JAMES L. The principle of socialization . . . IN HIS **Successful teaching: its psychological principles.** 2nd edition. New York: McGraw-Hill, 1954. pp. 141-171.

Meaningful and effective learning is related to the social setting created in the classroom. A good social setting capitalizes upon "social facilitation," the fact that an individual will do many tasks better when he does them in a group of similarly occupied workers. This gain due to the presence of a group is known as "social increment." Social facilitation is found when the group works without restriction or disturbance and with positive incentives. The democratic group, with its promotion of team spirit and mutual responsibility, has a desirable effect upon the learning and achievement of group members. Skillful and imaginative variation of the patterns of social behavior in the group of learners uncovers talents and capacities for leadership that might remain hidden in an undifferentiated adherence to free talk. Finally, relations among all students and cooperation rather than competition create a favorable social atmosphere. There are three degrees of excellence in the utilization of social dynamics and social-psychological factors: (1) conventional recitation with submissive group of learners requiring imposed discipline; (2) contributing atmosphere with only sympathetic discipline; and (3) cooperative group carrying their common undertaking with self-generated discipline. A democratic group pattern organizes learning at the highest level of meaningfulness and gives added drive to learning by bringing potential social forces to bear on it. This organization favors cooperative thinking, problem-solving, planning, and action, and brings forth original and creative suggestions and contributions. **(267)**

PHILLIPS, GERALD M. **Communication and the small group.** New York: Bobbs-Merrill, 1966. 139 pp.

This book is an attempt to bridge the gap between what experts know about small groups and what may be taught in a beginning course in college. The author outlines how PERT (Program Evaluation and Review Technique) may be used by groups in evaluating the potential effectiveness of their solutions and discusses group interactions in terms of game theory. Chapter and selected section headings further indicate contents: (1) The Small Group in Our Society; (2) Understanding the Small Group; (3) The Small Group in Education and Therapy (basic approaches to group therapy, formats for educational and therapeutic discussion, techniques of communication in the small group, sources of trouble in communication in small groups); (4) Problem-Solving Discussion (the standard Agenda, case study of a problem-solving discussion employing PERT); (5) Human Relations in the Small Group (the interaction game, the special case of the hidden agenda, common reasons for failure of groups). There is a 5-page bibliographic essay. An index is included. **(268)**

PHILP, HUGH and DEXTER DUNPHY. Developmental trends in small groups. **Sociometry**, vol. 22, 1959. pp. 162-174.

Research on group problem-solving by R. F. Bales and associates at Harvard has produced a set of observational categories which implies a sequence of functions necessary for progression from a problem situation to consensus or agreement. This sequence involved phases of communication, evaluation, control, decision, and tension reduction. In their experiments Bales and associates used carefully contrived groups discussing specially constructed artificial problems. The research reported here took place in Australia and was an effort to discover (a) whether contrived groups employed on complex problems directly related to their course of work (ego relevant) would in fact pass through a similar series of distinguishable phases, and (b) whether the sex of the participants would influence such a phase pattern in any way. The general theoretical position of Bales was supported. The sex-composition of the groups did not affect the phase movement. **(269)**

SCHMIDT, WARREN H. **The leader looks at the leadership dilemma** (Looking Into Leadership Series). Washington, D.C.: Leadership Resources, Inc., 1961. 12 pp.

Five questions often asked by leaders about their role introduce the discussion in this pamphlet. Historical shifts in the research-emphasis and definitions of leadership are discussed (leader personality and functions, autocratic, democratic, and laissez-faire styles). The dilemma of the leader is that he is expected to be democratic (by allowing group participation) and at the same time efficient (which often requires deciding alone to save time). Certain dependable approaches and suggestions derived from research and experience are offered. Five typical patterns of leadership–telling, selling, testing, consulting, and joining–involve varying degrees of group-centeredness. Forces in the leader, in the group members, and in the situation are discussed, and the leader is urged to assess these forces in determining the pattern of behavior most appropriate for him at a given time. A briefly annotated 5-item bibliography is included. **(270)**

SHEPHERD, CLOVIS R. **Small groups: some sociological perspectives.** San Francisco: Chandler Publishing Company, 1964. 130 pp.

The book introduces the reader to several sociological and social-psychological theories and research methods dealing with small groups and organizes this material from the standpoint of pure and applied social science and the philosophical positions of symbolic interactionism and positivism. Personal understanding, the accurate perception of events, and relating theories and research findings to experience is stressed. A small group (as a social phenomenon) is more organized and enduring than a social relation; small groups of two or three, because of their size, have characteristics that are either absent or different from those of groups of four or more. A small group possesses general characteristics: common objectives, differentiation of roles, shared values and norms, criteria for membership, and patterns of communication. As a group grows, its members establish formal rules and regulations; it comes to resemble a formal organization more than a group. The attitudes of daily life are contrasted with the scientific attitude. Three general theories and several limited theories show concepts useful in understanding group behavior. The application of knowledge about small groups is also discussed. **(271)**

STAGER, PAUL. Conceptual level as a composition variable in small-group decision making. **Journal of personality and social psychology** 5:2, February 1967. pp. 152-161.

"Decision making was investigated from the standpoint of the emergent distribution of functional roles, conflict generation, utilization of conflict in decision synthesis, and information acquisition." *(USCSC 1)* **(272)**

THELEN, HERBERT A. **Dynamics of groups at work.** Chicago: The University of Chicago Press, 1954. 379 pp.

This book uses two approaches to group dynamics, the first practical, the second theoretical. It assumes that basic principles and understandings can be found from the analysis of successful practice in such areas as citizen participation, classroom teaching, inservice professional training, administration and management, human relations training, and public meetings. The second approach offers concepts useful in thinking about group activity regardless of its social purposes or particular clientele. Chapters in Part I, Six Technologies, include: (1) Rebuilding thy Community through Citizen Action; (2) Educating Children Through Need-Meeting Activity; (3) Developing the School Through Faculty Self-Training; (4) Administration and Management: Group Responsibility and Individual Autonomy; (5) Training for Group Participation: The Laboratory Method; and (6) Effective Meetings: Principles and Procedures. Chapters in Part II, Explanations, include: (7) Membership: The Groups-Within; (8) Integration: Evaluating and Acting; (9) Reality: Factors in the Problem-Situation; (10) Control: Developing the Group Culture; (11) Leadership: Co-Ordinating Effort Toward Group Goals; and (12) Community: The Context of Group Operations. An annotated list of selected readings is included. The text is indexed. **(273)**

TROW, WILLIAM CLARK, A.E. ZANDER, W.C. MORSE and D.H. JENKINS. Psychology of group behavior: the class as a group. **The journal of educational psychology**, vol. 41, 1950. pp. 322-338.

The study is concerned with whether the school class is a group and, if it is, what this should mean to educational psychologists whose task it is to introduce teachers to the principles that should aid them in developing the best possible environment for learning in their classrooms. Research in group dynamics is first reviewed, from which it is concluded that group phenomena definitely affect the progress of learning as well as the kind of learning that takes place. The educational significance of this view derives from the fact that students' attitudes as well as their behavior patterns are modifiable. How the teachers can effectively shape these attitudes and behavior patterns is discussed in the remainder of the article under the heading of The Roles of the Teacher (the instructional role, the role of the democratic strategist, and the role of the therapist.) References are included. **(274)**

ZALEZNIK, ABRAHAM and DAVID MOMENT. **The dynamics of interpersonal behavior.** New York: John Wiley & Sons, 1964. 520 pp.

The study is divided into four major parts. The first part deals with the processes of group development, using the group itself as the unit of analysis. Two concerns are primary: (1) exploration of the requirements for the development of skills in social analysis necessary for working with data on human behavior—knowledge of theory, appropriate analytical methods, and ample material for practice; and (2) the use of research findings and theories that hold promise for both theoretical and practical understanding of group behavior. The second part focuses on the individual and relationships between individuals, treating the group as an influence on individual and interpersonal behavior. The third part concerns itself with the processes occurring between the work group and its environment—the formal organization within which small groups operate and the broader culture in which their members live. The fourth part analyzes natural and planned processes of leadership. Parts and sections are: Part One, Groups and Interpersonal Processes—Group and Interpersonal Behavior in Organizations: Perspectives, Processes in Group Development: Group Identity, Process in Group Development: Structure, Group Process: The Control of Behavior, Affect and Work in Groups; Part Two, Interpersonal Dynamics—Role Performances in Groups, Individual Development and Modes of Interpersonal Behavior, Interpersonal Dynamics; Part Three, Organizational Aspects of Group Behavior—Environmental Constraints, Productivity, Satisfaction; Part Four, Leadership and Change. Included are a bibliography and author, subject and research indexes. **(275)**

ORGANIZATIONS AND ORGANIZATIONAL CHANGE

ARGYRIS, CHRIS. **Organization and innovation.** Homewood, Ill.: Richard D. Irwin, 1965. 274 pp.

Research was conducted by the author in three organizations for the purpose of examining some basic issues: (1) the nature of interpersonal competence, (2) the nature of organizational innovativeness, and (3) a theory of individual and organizational change. In Chapter 1 a new set of categories is presented that can be used to observe individual and group behavior and to quantify variables related to interpersonal competence and problem-solving effectiveness. In addition to exploring several methodological issues, the author defines hypotheses and predictions that are explored in the remainder of the book. Chapters 2, 3 and 4 contain a report of a study in an organizational setting. Chapter 5 describes an attempt to change certain values and behavior of the board of directors of an organization as well as to measure the impact of these changes. In Chapter 6 the author extrapolates from the data and the relevant literature a model of the probable relationship among interpersonal competence, internal organization, environment, and innovation. Appendix A contains a more detailed description of the categories used in the theoretical scheme. Appendix B provides further interobserver reliability studies. **(276)**

ARGYRIS, CHRIS. **Personality and organization: the conflict between system and individual.** New York: Harper & Brothers, 1957. 291 pp.

This book represents the author's first step at integrating the existing research literature relevant to understanding human behavior in on-going organizations. Most of the book focuses on the question of why people behave the way they do in organizations. Wherever possible, concrete practical applications are included to make the book more useful to people concerned with the problems dealt with. Other basic questions discussed are: What are the basic components of organization?, How does the organization tend to evolve?, and How does it tend to maintain itself internally? **(277)**

BASS, BERNARD M. **Organizational psychology.** Boston: Allyn & Bacon, 1965. 459 pp.

This introduction to organizational psychology considers the role of industry in American society and changing attitudes about its goals and purposes; motivational factors related to work; the roles of the supervisor and the work group in developing and maintaining such motivation; the nature of the structure, communications, and conflicts in large formal organizations; and the executive decision-making process. There are 767 references and author and subject indexes. Chapters are (1) Introduction to Organizational Psychology (background, aims of psychology in industry, importance of values); (2) Attitudes Toward Work (satisfaction and productivity); (3) Rewards of Work (material rewards, working conditions, coworkers, job status); (4) The Individual and His Motivation to Work; (5) Supervisory Behavior; (6) Working Groups; (7) Industrial Organization; (8) Communications in Industrial Organizations; (9) Conflict in Industrial Organizations (status differences, goals and constraints, intergroup conflict, union-management conflict); (10) Psychological Aspects of Executive Decision-Making (rational approaches to making unprogrammed organizational decisions, decisions with limited rationality, perceiving the problem in organizations, searching for solutions, evaluating and choosing). **(278)**

BENNIS, WARREN G. Theory and method in applying behavioral science to planned organizational change. **Journal of applied behavioral science** 1:4, October-November-December, 1965. pp. 337-360.

Man's behavior is fallible in regulating the adaptation of human organizations. The proportion of planned, contemporary change is much higher than in former times. As a consequence, behavioral scientists are called on to influence organizational functioning and effectiveness more often than heretofore. A theory of change must include certain characteristics: communicability; compatibility with client systems must be determinable; variables must be manipulable and consonant with the client system's values; cost must not be prohibitive; the conditions of the "patient" must be susceptible to diagnosis; and phases of instruction must be discrete so the change agent can forecast the termination of the relationship. Some types of change programs are: exposition and propagation, elite corps, human relations training programs, consultation, staff programs, circulation of ideas, developmental research, and action research. **(279)**

BENNIS, WARREN G. **Changing organizations: essays on the development and evolution of human organization.** New York: McGraw-Hill, 1966. 223 pp.

The problem of change is considered from many different angles with focus on the causes and consequences of change in organizational behavior. The conclusions are derived from attention to (1) problems of change, (2) how these problems affect human organizations, and (3) what the behavioral sciences can do about directing the rate, shape, and consequences of change. The first section of essays identifies the evolutionary or inevitable trend in organizational development: (1) The Decline of Bureaucracy and Organizations of the Future; (2) Democracy Is Inevitable; (3) Toward a "Truly" Scientific Management: The Concept of Organization Health; (4) Changing Patterns of Leadership. The second section focuses on the contributions behavioral science can make to planned change; (5) Applying Behavioral Sciences to Planned Organizational Change; (6) Planned Organizational Change in Perspective; (7) Change-Agents, Change Programs, and Strategies; (8) Principles and Strategies of Directing Organizational Change Via Laboratory Training; (9) Some Questions and Generalizations about Planned Organizational Change. Five axioms basic to the study of organizations are offered in conclusion: (1) organizations are microcosms; (2) behavioral scientists have become more committed to applying their knowledge; (3) implementation of knowledge is a key problem facing the behavioral sciences; (4) the key to the problem of knowledge utilization is collaboration between the producers and users of knowledge; (5) the value systems of the scientific community and the practitioner must be enriched to include the idea of "revitalization." Our educational system should help us (1) accept the adaptive process without the fear of losing our identity; (2) increase our tolerance of ambiguity without the fear of losing intellectual mastery; (3) increase our ability to collaborate without fear of losing individuality; and (4) develop a willingness to participate in social evolution while recognizing implacable forces. **(280)**

BLAKE, ROBERT R. and JANE S. MOUTON. **Group dynamics–key to decision making.** Houston: Gulf Publishing Company, 1961. 120 pp.

Management training is intended to effect, for the attainment of corporate objectives, the willing release of energies controlled by others. The approach to laboratory training described here has been effective in integrating organizational requirements of profit and human requirements of growth. Chapters of the book are titled: (1) Group Dynamics in Decision-Making, (2) The Management Development Lab, (3) How Power Affects Human Behavior, (4) How Power Affects Employee Appraisal, (5) How to Get Better Decisions from Groups, (6) The Story Behind Inter-Group Conflict, (7) Why Problem-Solving Between Groups Sometimes Fails, and (8) Power Styles Within An Organization. A glossary of terms and a subject index are appended. **(281)**

BROWN, DAVID S. **The leader looks at authority and hierarchy** (Looking into Leadership series). Washington, D.C.: Leadership Resources, Inc., 1961. 12 pp.

Seven questions which leaders often ask about authority and hierarchy are cited as evidence of the importance of these facets of organizations. Problems with commonly held assumptions about organizational authority and hierarchy are examined: (1) organizations are systems which function in much the same way as mechanical systems; (2) authority exists at the top and is distributed downward through the organization by a system known as delegation; (3) there is a distinction in kind between what is done at the top of the organization and what is done at the bottom (policy and operations). Ways in which power is expressed Skill requirements of an administrative leader are suggested, and some guidelines for administrative leadership are offered. The role of the administrator as a group leader who moves people to achieve goals which they have a part in determining is emphasized. **(282)**

CANGELOSI, VINCENT E. and WILLIAM R. DILL. Organizational learning: observations toward a theory. **Administrative science quarterly** 10:2, September 1965. pp. 175-203.

This paper analyzes learning processes of a seven-man team during a semester's involvement in a complex management decision exercise. Four phases of organizational development are identified and discussed: an initial phase, a searching phase, a comprehending phase, and a consolidating phase. Observations of how the team learned are then compared with three recent discussions of organizational learning processes in laboratory, industrial, and governmental settings. The paper proposes a synthesis which views organizational learning as a product of interactions among three kinds of stress. It presumes that learning is sporadic and stepwise rather than continuous and gradual and that learning the preferences and goals goes hand in hand with learning how to achieve them. Separate mechanisms are postulated to control adaptation at the individual and subgroup level within the organization and to control adaptation of the organization as a total system. Links between the two levels of adaptations are also described. *(ASTD)* **(283)**

CARZO, ROCCO, JR. and JOHN N. YANOUZAS. **Formal organization: a systems approach.** Homewood, Ill.: Richard D. Irwin, Inc. and The Dorsey Press, 1967. 591 pp.

In the systems approach formal organization is treated as a set of interdependent elements which act to achieve certain goals and to maintain an orderly state of affairs in exchanges with the environment. This introduction to the systems approach is designed for a beginning course. Parts and chapters include: Part I, Fundamental Concepts–(1) Introduction; (2) Traditional Organizational Theory; (3) Administration in Traditional Theory; (4) Problems of Traditional Theory; Part II, Behavioral Patterns–(5) Nonformal Behavior; (6) Social Organization and Behavior; (7) Power and Power Structure; (8) Emergent System; Part III, Organizational Design–(9) Markov Chain Analysis; (10) Learning; (11) Basic Framework for Organizational Design; (12) Control; (13) Waiting Line Theory and Organizational Design; (14) System Reliability in Organizational Design; Part IV, Elements of Change–(15) Motivation in Organization; and (16) Organizational Change. There are name and subject indexes. **(284)**

COOPER, W. W., H. J. LEAVITT and M. W. SHELLY, II (eds.). **New perspectives in organization research.** New York: John Wiley & Sons, 1964. 606 pp.

The papers comprising the chapters in this volume were drawn from two sources: from an Office of Naval Research Conference on Research in Organizations held at Carnegie Institute of Technology, June 22-24, 1962; and from a Ford Foundation Seminar on the Social Sciences of Organization held at the University of Pittsburgh, June 10-23, 1962. The conference participants were persons active in either the management sciences (including operations research) or the behavioral sciences (including economics). The seminar participants were from business schools and social science departments of a number of universities. There are 29 chapters by as many authors, arranged in four parts: General Perspectives, Behavioral Science Perspectives, Interdisciplinary Perspectives, Management Science Perspectives, and Perspectives for Further Research. A bibliography is included. **(285)**

GINZBERG, ELI and EWING W. REILLEY. **Effecting change in large organizations.** New York: Columbia University Press, 1957. 155 pp.

"This is an exploratory study. It has four objectives: to identify an important aspect of corporate life; to assess the strategic factors involved in the process of directed change; to consider how current efforts to bring about major organizational changes can be improved; and to suggest the lines of future investigation likely to yield new knowledge and improvements in practice. The subject is so large that we are inevitably forced to deal with it suggestively rather than exhaustively. Our aim is to frame the problem and to identify the key elements and processes so that others in business and academic life may be stimulated to concern themselves with it" (from author's foreword). Chapter titles and selected topics further indicate content and organization of the book: (I) The Challenge of Change (change in the work of the president, the key executives and the general manager, parallels in military organizations); (II) The Balance Sheet for Change (cultural and economic environments, corporation forces, inertia, competitive pressures, personnel resources, prior experience with change, reputation of the management); (III) Psychological Factors in Change (facilitating and retarding factors, psychological mechanisms, effective communications, control of anxiety, learning new skills); (IV) Preparing the Plan; (V) The Initial Stage of Implementation (announcement, timing, objectives, approach, specification of functions, group involvement); (VI) New Behavior Patterns (personnel patterns, control measures, formal mechanisms for learning, feedback and audit); (VII) The Process of Change (major findings, directions for research). There is a 5-page bibliography. **(286)**

GUEST, ROBERT H. **Organizational change: the effect of successful leadership** (Irwin-Dorsey Series in Behavioral Science in Business). Homewood, Ill.: The Dorsey Press and Richard D. Irwin, Inc., 1962. 180 pp.

A Yale Technology Project production. "This is a study . . . of a patient who was acutely ill and who became extremely healthy. The 'patient' was not a Man but a Management, the management of a large complex industrial organization." The book is one of the few systematic studies of a large complex organization in process of change. It contains reliable and meaningful performance data, exhibits full recognition of the technological environment within which the change phenomenon occurred, and puts an empirical case history into broad theoretical perspective. The first 5 chapters describe the organization and its problems over a period of 3 years. Chapter 7, The Process of Change, treats the change phenomenon specifically from preliminary conditions to aftermath. Chapter 8, The Nature of Authority in Perspective, examines the authority function and its effects on group interaction. Chapter 9 is entitled Production Organizations as Socio-Technical Systems. The appendix contains a review of research on tension and stress in organizations, how they can be modified, and the role of the leader in the process of change. An 11-page bibliography and author and subject indexes are included. **(287)**

HILL, WALTER A. and DOUGLAS M. EGAN. **Readings in organization theory: a behavioral approach.** Boston: Allyn & Bacon, 1966. 748 pp.

A collection of 41 readings by various authorities in the field is presented for use either as a basic text or as supplemental readings. The readings are arranged in seven groups as follows: (1) The Complex Nature of Organization Goals; (2) The Process of Goal Formation; (3) The Social System in Organizations; (4) The Structure of Organizations; (5) Decision Making and Adaptation; (6) Control and Evaluation; (7) Some Remaining Questions. References are included. **(288)**

HUTCHINSON, JOHN G. **Organizations; theory and classical concepts.** New York: Holt, Rinehart & Winston, 1967. 178 pp.

There are chapters on human factors in organizations, planning, authority and leadership, the control process, and sources of managerial talent. *(USCSC 1, edited)* **(289)**

LAWRENCE, PAUL R. and others. **Organizational behavior and administration.** Homewood, Ill.: The Dorsey Press and Richard D. Irwin, Inc., 1961. 910 pp.

The behavior of people as members of groups and organizations rather than as unique individuals is focused upon. Case descriptions of the behavior of people in organizations are presented; these cases are not to demonstrate how people should act but how they do act. The cases have been grouped into clusters to help students accumulate and build the simulated experience that the discussion of cases can provide. There are several types of cases: cases that are descriptive, cases designed for drill, cases which report research, cases that present the fragmentary symptoms of a problem which might come to the administrator for action. The aim of the book is to illustrate how future administrators can make use of systematic research as guides to their own behavior and not simply to acquaint students with what is known. The material in the book was selected to show that there is order in the human universe. Chapter titles are: (1) The Human Problems of Administration; (2) Work Group Behavior; (3) Supervisory Behavior; (4) Diagnosing and Proposing Remedial Action; (5) Intergroup Behavior; (6) Organizational Behavior and the Wide Culture; and (7) The Administrator as an Agent of Organizational Change. **(290)**

LIKERT, RENSIS. Measuring organizational performance. **Harvard business review** 36:2, March-April 1958. pp. 41-50.

An argument is made for management's need of measurements that deal directly with the human assets of the organization—for example, measurements of loyalty, motivation, confidence, and trust. Traditional theories of measurement which concentrate on aspects of profit and loss do not adequately and accurately reflect the quality and capacity of the human organization of a company. The need for measuring these variables is supported by a detailed review of a study designed to test these two concepts of a modified theory of measurement: (1) that the pattern of interaction between the manager and those with whom he deals should always be such that the individuals involved will feel that the manager is dealing with them in a supportive rather than a threatening manner; and (2) that management will make full use of the potential capacities of its human resources only when each person in an organization is a member of a well-knit and effectively functioning work group with high interactions, skills, and performance goals. The concepts were tested by using attitudinal and motivational data collected in 1955 in a study by the Institute for Social Research, University of Michigan. The study is described, analyzed, and applied. The article concludes with a list of the variables of human assets now measurable with the techniques of the social sciences. **(291)**

MARCH, JAMES G. (ed.). **Handbook of organizations.** Chicago: Rand McNally, 1965. 127 pp.

The present state of organizational research and theory is described in 28 essays on the subject by a number of authorities in the field. The essays are grouped in five major areas: I, Foundations—(1) Influence, Leadership, Control, by Dorwin Cartwright; (2) Decision Making and Problem Solving, by D. W. Taylor; (3) Small Groups and Large Organizations, by R. T. Golembiewski; (4) Social Structure and Organizations, by A. L. Stinchcombe; II, Methodologies—(5) Laboratory Experimentation with Organizations, by K. E. Weick; (6) Field Methods in the Study of Organizations, by W. R. Scott; (7) Simulation of Organizational Behavior, by K. J. Cohen and R. M. Cyert; (8) Mathematics and Organizational Theory, by W. H. Starbuck; III, Theoretical-Substantive Areas—(9) Management Theory, by J. L. Massie; (10) Economic Theories of Organization, by T. A. Marschak; (11) Organizational Growth and Development, by W. H. Starbuck; (12) Communication in Organizations, by H. Guetzkow; (13) Interpersonal Relations in Organizations, by A.

Zaleznik; (14) Organizational Decision Making, by J. Feldman and H. E. Kanter; (15) Organizational Control Structure, by A. Etzioni; (16) The Comparative Analysis of Organizations, by S. H. Udy; IV, Specific Institutions–(17) Unions, by A. S. Tannenbaum; (18) Political Party Organization, by J. A. Schlesinger; (19) Public Bureaucracies, by R. L. Peabody and F. E. Rourke; (20) Military Organizations, by K. Lang; (21) The Organization of Traditional Authority: English County Government, 1558 to 1640, by V. K. Dibble; (22) Hospitals: Technology, Structure, and Goals, by C. Perrow; (23) The School as a Formal Organization, by C. E. Bidwell; (24) Prison Organizations, by D. R. Cressey; (25) Business Organizations, by W. R. Dill; V, Applications–(26) Changing Interpersonal and Intergroup Relationships in Organizations, by H. A. Shepard; (27) Applied Organizational Change in Industry; Structural, Technological, and Humanistic Approaches, by H. J. Leavitt; (28) Organizational Design and Systems Analysis, by C. J. Haberstroh. Author and subject indexes are included. **(292)**

MARCH, JAMES G. and HERMAN A. SIMON, with the collaboration of Harold Guetzkow. **Organizations.** New York: John Wiley & Sons, 1958. 262 pp.

This book is about the theory of formal organizations. It is organized around propositions about organizational behavior which can be grouped in three broad classes, on the basis of their assumptions: (1) employees are passive instruments of the organization; (2) members bring attitudes, values, and goals to the organization which affect the entire organization; and (3) members are decision makers and problem solvers, so perception and thought processes are central to the exploration of behavior in organizations. Chapter 1, Organizational Behavior, discusses the importance of the subject, the scattered and diverse nature of the literature as well as the disparity between hypothesis and evidence, and the organization of the book. Chapter 2, "Classical" Organization Theory, deals with the employee as passive instrument, as he appears in scientific management literature. Chapter 3, Motivational Constraints: Intraorganizational Decisions; Chapter 4, Motivational Constraints: The Decision to Participate; and Chapter 5, Conflict in Organizations, deal with propositions relating to the second basic assumption about employees. Chapter 6, Cognitive Limits on Rationality, and Chapter 7, Planning and Innovation in Organizations, are concerned primarily with the decision-making and problem-solving aspects of organizational behavior. There is a 35-page bibliography, a numerical index to variables (key concepts in the text) and a general subject index. **(293)**

McGREGOR, DOUGLAS. **The human side of enterprise.** New York: McGraw-Hill, 1960. 246 pp.

The purpose of this volume is "to encourage the realization that theory is important, to urge management to examine its assumptions and make them explicit." The author attempts to substantiate the thesis that "the theoretical assumptions management holds about controlling its human resources determine the whole character of the enterprise." He repudiates the traditional view of direction and control (called Theory X) and proposes a theory involving the integration of individual and organizational goals (Theory Y). As he states in conclusion, "if we can learn how to realize the potential for collaboration inherent in the human resources of industry, we will provide a model for governments and nations which mankind sorely needs." Parts and chapters further indicate content and organization: Part One, The Theoretical Assumptions of Management–(1) Management and Scientific Knowledge; (2) Methods of Influence and Control; (3) Theory X: The Traditional View of Direction and Control; (4) Theory Y: The Integration of Individual and Organizational Goals; Part Two, Theory Y in Practice–(5) Management by Integration and Self-Control; (6) A Critique of Performance Appraisal; (7) Administering Salaries and Promotions; (8) The Scanlon Plan; (9) Participation in Perspective; (10) The Managerial Climate; (11) Staff-Line Relationships; (12) Improving Staff-Line Collaboration; Part Three, The Development of Managerial Talent–(13) An Analysis of Leadership; (14) Management Development Programs; (15) Acquiring Managerial Skills in the Classroom; (16) The Managerial Team. References are cited after each chapter. **(294)**

PERROW, CHARLES. The analysis of goals in complex organizations. **American sociological review** 26:6, December 1961. pp. 854-866.

"An understanding of organizational behavior requires close examination of the goals of the organization reflected in operating policies. To reach a first approximation of operative goals, a scheme is proposed which links technology and growth stages to major task areas–capital, legitimization, skills, and coordination–which predict to power structure and thence to limits and range of operative goals. The major illustration of the utility of the scheme is provided by voluntary general hospitals; other voluntary and non-voluntary service organizations are discussed, in these terms, as well as profit-making organizations" (journal summary). **(295)**

SCHEIN, EDGAR. **Organizational psychology** (Foundations of Modern Psychology series). Englewood Cliffs, N.J.: Prentice-Hall, 1965. 114 pp.

Drawing from the parent fields of industrial psychology, industrial sociology, and social psychology, the author presents points of view and focal concepts around which to organize thinking about the new field of organizational psychology. Chapters and selected topics are: (1) The Field of Organizational Psychology; (2) Psychological Problems in Organizations; (3) Recruitment, Selection, Training, and Allocation (including job design and human engineering); (4) Organizational Man and the Process of Management (organizational relationships, management's assumptions about people, authority–the psychological contract–and the process of management in perspective); (5) Group and Intergroup Relationships (definition, types, functions of groups, integration of organizational goals and individual needs); (6) The Organization as a Complex System; (7) Organizational Effectiveness (adaptive-coping cycle, organizational conditions for effective coping). A selected reading list of 423 titles and an index are included. **(296)**

SMITH, ROBERT J. (ed.). Major issues in modern society; twentieth anniversary meetings of the Society for Applied Anthropology (special issue). **Human organization** 21:2, Summer 1962. pp. 61-170.

Papers included are: Professional Responsibility for Social Change, by F. L. W. Richardson, Jr.; The Change Process in Organizations, by Leonard Sayles; Quantitative Analysis of Complex Organizational Systems, by Eliot D. Chapple; Changing Behavior Through Cognitive Change, by Herbert R. Shepard and Robert R. Blake; The Organization of the Large Mental Hospital, by Elaine and John Cumming; Community and Regional Development: The Joint Cornell-Peru Experiment–The Process of Acclerating Community Change, by Allan R. Holmberg and Henry F. Dobyns; Summary of Progress and Reactions, by Henry F. Dobyns, Carlos Monge M., and Mario V. Vazquez; Integrating Communities Into More Inclusive Systems, by Harold D. Laswell; Implementing Change Through Government, by the Task Force on Indian Affairs; Planning Future Joint Programs, by John Ohly; Disorganization and Reorganization, by Everett C. Hughes; Where Are We Going If Anywhere?, by Kenneth E. Boulding. **(297)**

TANNENBAUM, ROBERT, IRVING R. WESCHLER and FRED MASSARIK. **Leadership and organization: a behavioral science approach.** New York: McGraw-Hill, 1961. 456 pp.

This book represents a selected collection of the writings, from 1950 to 1960, of members of the Human Relations Research Group (HRRG), Institute of Industrial Relations and Graduate School of Business Administration, UCLA. It is designed as an overview of HRRG work from its inception to 1961. As such it is a collection of articles, research papers, excerpts from monographs, and the like. These writings are presented in the first three of the four major parts of the book: (1) Leadership and the Influence Process; (2) Sensitivity Training: A Personal Approach to the Development of Leaders; and (3) Studies in Organization. The initial part presents some general reflections on the human relations area and a number of theoretical and practical statements concerning concepts and processes of basic leadership. The second part focuses on the purposes and functions of sensitivity training and the concepts of trainer role and group development. The third part develops some theoretical notions pertaining to formal organization, examines the operation of a particular organization, and presents the results of some empirical explorations in the organization area. Part IV presents commentaries on HRRG theory, concepts, and methods prepared by leading experts in related fields. A bibliography and indexes are included. **(298)**

VINTER, ROBERT D. Analysis of treatment organizations. **Social work** 8:3, July 1963. pp. 3-15.

Analysis of "people-changing" organizations and the two major types that compose this category–socialization and treatment agencies–are presented. Distinctive features of treatment organizations are examined and certain problems that confront complex treatment organizations are discussed: use of human relations technologies, reliance on professionals, consequences for clients, and evaluation of performance. References are cited in footnotes. **(299)**

WHYTE, WILLIAM H., JR. **The organization man.** Garden City, N.Y.: Doubleday Anchor Books (paperbound edition), 1956. 471 pp.

"As more and more lives have been encompassed by the organization way of life, the pressures for an accompanying ideological shift have been mounting. The pressures of the group, the frustrations of individual creativity, the anonymity of achievement . . . [have caused the organization man to seek] a redefinition of his place on earth–a faith that will satisfy him that what he must endure has a deeper meaning than appears on the surface." Thus, a body of thought called the Social Ethic is replacing the Protestant Ethic. The roots of this current phenomenon are discussed and its impact on individuals is suggested by description of the organization man in college, his initial indoctrination in organization life, analogies in research labs and academic life, expressions in popular fiction, and examples of far-reaching effects as seen in the new suburbia. The problem has swung too far in the direction discussed so that a re-emphasis on individualism–within organization life–is now needed. The 29 chapters of the book are arranged under 7 major headings: (I) The Ideology of Organization Man (Decline of Protestant Ethic, Scientism, Belongingness, Togetherness); (II) The Training of Organization Man; (III) The Neuroses of Organization Man; (IV) The Testing of Organization Man; (V) The Organization Scientist; (VI) The Organization Man in Fiction; (VII) The New Suburbia: Organization Man. An appendix is entitled "How to Cheat on Personality Tests." There is an index of names and subjects. **(300)**

EDUCATIONAL AND TRAINING PHILOSOPHIES

ARCHAMBAULT, REGINALD D. (ed.). **John Dewey on education; selected writings.** New York: The Modern Library, 1964. 439 pp.

"This book represents an attempt to collect, in systematic form, Dewey's major writings on education, together with certain basic statements of his philosophic position that are relevant to understanding his educational views. ... The aim of the book is to prompt a fresh look at Dewey's educational theory. It is a commonplace that everyone talks about Dewey and no one reads him. It is my hope that a comprehensive collection of this kind will facilitate a careful, critical reading of Dewey's views, on the part of scholars and students of education" (editor's preface). Major parts and selected chapter headings indicate the book's organization: (I) Philosophy and Education; (II) Ethics and Education; (III) Aesthetics and Education; (IV) Science and Education; (V) Psychology and Education; (VI) Society and Education; (VII) Principles of Pedagogy (The Relation of Theory to Practice in Education; The Child and the Curriculum; The Nature of Subject Matter; Progressive Organization of Subject Matter; The Nature of Method; The Educational Situation: As Concerns Secondary Education; The Way Out of Educational Confusion; My Pedagogic Creed). **(301)**

ASSOCIATION OF AMERICAN MEDICAL COLLEGES. **Planning for medical progress through education** (report submitted to the Executive Council of the AAMC by Lowell T. Coggeshall). Evanston, Ill.: The Association, April 1965. 107 pp.

"The great and growing national concern over the health of our people requires that those responsible for medical education today and in the future turn their attentions to a question of the greatest importance and most far-reaching consequences: Will the methods and practices currently followed in providing health personnel of all categories, together with the programs and facilities in being or planned, be adequate to meet our national needs? This basic question about the future development of medical education, and parallel concerns about the role that the Association of American Medical Colleges should play in the decades ahead and how the organization should develop its effectiveness, led to this study of the association's future work. ... During the study, surprising unanimity of concern was found among medical educators, university officials, public officals, and others about problems in the field of medical education. ... Most point to the need to take major steps to improve medical education–to enable the nation to produce more and better prepared physicians and other health personnel. ... Most impressive is the repeated assertion that there is need for some organization–preferably the Association of American Medical Colleges–to assume a more aggressive and correlative role if future needs in the field of education for all health personnel are to be met. The report endeavors to highlight the needs for change identified and to suggest courses of action that might be taken to meet the anticipated needs of America for medical education" (from Letter of Transmittal, by Lowell T. Coggeshall, M.D.). Major sections of the report are entitled: (1) Medical Education in Perspective; (2) Major Trends Related to Health Care and Their Implications; (3) The Past and Present Roles of the Association of American Medical Colleges; (4) The Future Development of the Association of American Medical Colleges; (5) Summary of Trends, Implications, and Recommendations. An appendix of terminology defines terminology of primary importance to the association: education for health and medical sciences; physician education (pre- and postdoctoral education); basic medical sciences education; continuing education; and allied health professions and occupations. There is a selected bibliography. **(302)**

De LONG, EARL H. A philosophy of training and education for the federal service. IN Presidential Task Force on Career Advancement. **Self and service enrichment through federal training; selections from studies, reports and papers submitted to the Presidential Task Force** ... (Distributed by U.S. Civil Service Commission). Washington: U.S. Govt. Print. Office, 1967. pp. 56-90.

The need for, current status of, and suggested changes in training of federal professional, managerial, and technical employees are discussed. The needs for increased planning, specific goals, and attention to individual requirements are emphasized. Topics included in the discussion are: the philosophy and assumptions of the Government Employees Training Act of 1958; military training; university training and education (undergraduate and graduate); pre-entry training; post-entry training and education; up-dating requirements;

and executive development. Ten specific suggestions for improving federal employee training and education are made in summary, and a table charting the suggested roles of the Federal Government itself and the academic and related research and professional organizations is provided. **(303)**

Educational technology, innovation in education; featuring a special report on an Aerospace Education Foundation seminar. Washington, D.C.: Aerospace Education Foundation, Spring 1967. 66 pp.

The edited proceedings of the Seminar on Educational Technology held in Washington, D.C., in 1966, are presented. Questions explored are indicated by topics of papers: The New World of Educational Technology, by William Leavitt; A Symposium–Part I: The Systems Approach to Education; A Symposium–Part II: How the Military Can Aid Civilian Education; A Symposium –Part III: Questions from the Audience, Answers from the Panelists; What Satellite Technology Can Do for Education, by Maj. Gen. James McCormack, Jr., USAF (Ret.); The Realities of the Learning Market, by Harold Howe, II; How to Help Johnny Get–and Keep–a Job, by Robert M. Morgan and David S. Bushnell; Toward the New Pedagogy, by Robert Glaser; Education and the Underdeveloped World, by George D. Woods. There is a selected, annotated bibliography by Gabriel D. Ofiesh. [Located too late for indexing.]

NATIONAL SECURITY INDUSTRIAL ASSOCIATION. **Proceedings of Project ARISTOTLE Symposium, Washington, D.C., December 6-7, 1967.** Washington, D.C.: The Association, 1968. 642 pp.

Proceedings of general sessions and task groups are entitled: Industry's Proposed Creed; What Education Wants From Government and Industry; The Challenge to ARISTOTLE and Future Needs; Project 100,000; Media Workshop; Information Storage, Retrieval, and Dissemination; Frontiers of Educational Research; Panorama of Educational Research; Computers in Education; Communications for Education; New Developments in Teaching Marine Technology; New Audio-Visual Developments; New Developments in Trainers and Simulators; New Developments in Educational Facilities; Biomedical Education; Systems Approach to Education; Issues and Evaluation of Education; Current Activities in Education Evaluation; Courses, Tasks and Skills; Government/Education/Industry Interface; The World Crisis in Education; How Can We Meet the Challenges? [Located too late for indexing.]

THELEN, HERBERT A. **Education and the human quest.** New York: Harper & Brothers, 1960. 224 pp.

"We know a great deal about the nature of man, knowledge, and society; about the dynamics of learning by individuals; about the factors affecting group performance; about intergroup relations and social action; about community improvement. . . . As judged by what could be done if we were to understand and apply modern knowledge to educational problems, all our schools are obsolescent." Communities need to make education intervene in the processes of interdependence which tend to fractionate and dehumanize and to formulate broad policy which is responsive to demands of human natures, social interdependence, and societal goals. Instead of allowing education to develop through increased bureaucracy, tinkering (distinguished from experimentation by absence of any thought-out theory); and experimentation (which occasionally yields good results), a fourth approach is needed (discussed in Chapter 1) whereby everyone concerned with the enterprise of education is educated. "It would involve teachers studying and formulating the basic discipline of the field of knowledge they teach; administrators and counselors studying the bases for deciding which particular child should be assigned to which teachers; community agencies studying the over-all range of education-relevant experiences of students in the community and then trying to decide which kinds of experiences could best be supervised in schools, in families, in clubs, and in work situations." These ideas are further developed in subsequent chapters: (2) Man: What Makes Johnny Tick? (the complexity of human behavior and the task of education to supervise the natural inquiry into ways of resolving the conflict between our animal and social natures in each of its confrontations); (3) Knowledge: The Instinct for the Jugular (information and knowledge are compared, and the educative part of knowledge as a disciplined approach to life is suggested); (4) Society: The House That Jack Lives In (social context of school need for community awareness of and concern for welfare and education of youth); (5) Suppositions: Four Models for Education (Model 1–Personal Inquiry; Model 2–Group Investigation; Model 3–Reflective Action; Model 4–Skill Development); (6) Model 1: Personal Inquiry; (7) Social Order: The Subterranean World of the Group; (8) Model 2: Group Investigation; (9) Model 3: Reflective Action; (10) Model 4: Skill Development; (11) Do-It-Yourself: The Greatest Project (necessity for joint action by school and community if improvement is to come). References are listed after each chapter. There is an index of names and subjects. **(304)**

TYLER, RALPH W. Distinctive attributes of education for the professions. IN Council on Social Work Education. **A source book of readings on teaching in social work; reprints of selected articles** (65-58-3). New York: The Council, 1966. 14 pp.

In education for all professions there are common problems, common principles, and common criteria for guiding emerging programs. The essential characteristics of a profession—(1) a professional code of ethics, and (2) techniques of operation based upon principles rather than rule-of-thumb procedures or routine skills—are discussed, and the major tasks involved in planning and conducting a professional educational program are set forth with specific reference to professional content in sections entitled: Objectives of Professional Education; Planning Learning Experiences; Organizing Learning Experiences; and Evaluating Effectiveness of Educational Program. Emphasis throughout is on planning and evaluating in terms of objectives. (Reprinted from *Social Work Journal* 33:2, April 1952, pp. 55-62, 94.) **(305)**

TYLER, RALPH W. Scholarship and education for the professions. IN Council on Social Work Education. **A source book of readings on teaching in social work; reprints of selected articles** (65-58-3). New York: The Council, 1966. 11 pp.

This discussion is aimed at throwing light on questions of intellectual attainment and academic standards in professional education. Topic headings indicate content and organization: The Meaning of Education for the Professions; The Tasks of Professional Education; Professional Schools and Academic Departments—Similarities and Differences; The Concern with Certification; The Distinction between Graduate and Undergraduate Education; The Aims of Graduate Education: Theory and Practice; The Research Function of Professional Schools. (Reprinted from *Education for Social Work, 1957 Proceedings of the Fifth Annual Program Meeting.* New York: Council on Social Work Education, 1957.) **(306)**

The unfinished journey; issues in American education. New York: The John Day Company, 1968. 202 pp.

This book commemorates 100 years of history for the U.S. Office of Education. It contains a Preface by President Lyndon B. Johnson, an Introduction by Harold Howe II, U.S. Commissioner of Education, and 12 essays: What Price Quality in Education?, by Ralph W. Tyler; The National Politics of Education, A Congressman's View, by John Brademas; Education and Poverty, by Walter P. Reuther; The Educability of the Children of the Poor, by Allison Davis; The Urban School in an Urban Society, Twixt the Upper and the Nether, by Sidney P. Marland, Jr.; Can the Schools Put Innovations to Use?, by Robert E. Slaughter; The Things of Education, by Harold B. Gores; A Larger Role for the Small College, by Esther Raushenbush; Does America Need the Negro Colleges?, by Earl J. McGrath and L. Richard Meeth; From Autonomy to Systems, by James A. Perkins; Technology and Education, by Thomas J. Watson, Jr.; Education's Role in International Relations, by Charles Frankel. **(307)**

U.S. AIR UNIVERSITY. ACADEMIC INSTRUCTOR AND ALLIED OFFICER SCHOOL. **Readings in educational theory.** Maxwell Air Force Base, Alabama: The University, 1965. 126 pp.

"This book presents four theories of education which have major significance in America today: perennialism, essentialism, progressivism, and reconstructionism. Each theory presents a program for education. Each seeks to shape American education through its concept of the nature of learning and through its view of the main tasks and aims of the educational process. Each theory is based on a philosophy of education that is not necessarily a fully systematized body of thought, but rather a set of deeply-rooted convictions about the nature and aims of education and its place in American society. An attempt has been made to present writings by outstanding representatives of the major educational theories currently being discussed in America. . . . Their works, although abridged in some instances, are presented at considerable length to do justice to their views" (from the introduction). Selections in each part are: Part I, Philosophy and Educational Theory—What Can Philosophy Contribute to Educational Theory?, by Curt J. Ducasse; Part II, Perennialism—Introduction to Perennialism; The Conflict in Education in a Democratic Society, by Robert M. Hutchins; Education vs. Western Civilization, by Walter Lippman; The St. John's Program: a Report—Annapolis, Maryland; A Conversation on Education, by Robert M. Hutchins; Part III, Essentialism—Introduction to Essentialism; An Essentialist's Platform for the Advancement of American Education, by William C. Bagley; A National Standard for Education, by Vice-Admiral H. G. Rickover, USN; The Case for Essentialism in Education, by William C. Bagley; Part IV, Progressivism—Introduction to Progressivism, My Pedagogic Creed, by John Dewey; Experience and Education, by John Dewey; The Case for Progressivism in Education, by William Heard Kilpatrick; Part V, Reconstructionism—Introduction to Reconstructionism; Philosophies of Education in an Age of Crisis, by Theodore Brameld; Imperatives for a Reconstructed Philosophy of Education, by Theodore Brameld; Part VI, Education in the Aerospace Age—Higher Education as an Instrument of National Policy, by Merriam H. Trytten; Education for the Third Revolution, by Glenn

T. Seaborg; A Twenty-First Century Look at Higher Education, by Alvin C. Eurich. There is a selected, classified, 68-item bibliography. **(308)**

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE. **"What's going on in HEW?" The HEW Forum Papers 1967-1968.** Washington: U.S. Govt. Print. Office, 1968. 152 pp.

"The HEW Forum lecture series was an attempt to give HEW employees a wider perspective on the work of the Department as a whole by exposing them to the ideas and personalities of its leadership. They are published here 'to convey to people outside HEW a degree of insight into the range and magnitude of this HEW effort as well as a measure of the earnestness and vitality that goes into it.' The Forum began and ended with a Secretary setting forth an overall plan of aims and strategies. Secretary John W. Gardner . . . launched the series with a comprehensive view of President Johnson's domestic program. He placed it in its historical frame of reference, identifying key issues–civil rights, poverty, crime control, environmental quality–and discussing the great questions of how to adopt existing means to evolving ends. Incoming Secretary Wilbur J. Cohen concluded the series with an analysis of some of the most challenging domestic problems of the Nation's unfinished agenda and a description of the way in which our democratic process produces social progress." Between the Secretaries' lectures there were 3 presentations on health, 2 on education, 3 on social welfare, and 3 on ways and means. Lecture topics and speakers were: Health Services: Who's in Charge, by Dr. William H. Stewart, Surgeon General (organization and non-organization of medical facilities in the U.S., and mood of health professions); Has the World Grown Too Small?, by Dr. Phillip R. Lee, Assistant Secretary for Health and Scientific Affairs (population explosion and birth control); From Witchcraft and Sorcery to Head-Shrinking-Society's Concern About Mental Health, by Dr. Stanley F. Yolles, Director, National Institute of Mental Health (history of care for mentally ill, current stresses threatening mental health, and evolving programs); Who's Minding the Store?, by Dr. Harold Howe, Commissioner of Education (discussion of formal and informal groups comprising power structure in teaching and learning in the U.S.); Informal Education: The Rural Precedent and the Urban Challenge, by Paul A. Miller, Assistant Secretary for Education (possibilities for adapting rural extension service type of informal education to needs of urban poor); Rehabilitation–An Act of Faith, by Mary E. Switzer, Administrator, Social and Rehabilitation Service (history of that branch of HEW, triumphs of faith behind the system); National Purpose and the Need for Community, by Lisle C. Carter, Assistant Secretary for Individual and Family Services (growing conflict between traditional national mindset and current reality, with implications for civil rights); Public Services Under a Government of Laws, by Alanson W. Willcox, General Counsel (new role of the Nation's courts in making social services available to all who are eligible); Federal Funding: Categorical Vs. Bloc Grants, by James F. Kelly, Assistant Secretary, Comptroller (current and projected ways of distributing Federal funds for HEW programs); Sharpening the Knife That Cuts the Public Pie: Toward Better Choice-Making Via PPBS, by William Gorham, Assistant Secretary for Planning and Evaluation (new techniques of planning, choice-making and evaluation); The Worth of Our Work, by Donald F. Simpson, Assistant Secretary for Administration (management's contributions to quantity and quality of work done in a big organization). **(309)**

WHITEHEAD, A. N. **The aims of education and other essays.** New York: Macmillan, 1929. 247 pp.

"One main idea runs through the various chapters and is illustrated in them from many points of view. It can be stated briefly thus: The students are alive, and the purpose of education is to stimulate and guide their self-development. It follows as a corollary from this premise, that the teachers also should be alive with living thoughts. The whole book is a protest against dead knowledge, that is to say, against inert ideas" (from author's preface). Titles of essays are: (I) The Aims of Education; (II) The Rhythm of Education; (III) The Rhythmic Claims of Freedom and Discipline; (IV) Technical Education and Its Relation to Science and Literature; (V) The Place of Classics in Education; (VI) The Mathematical Curriculum; (VII) Universities and Their Function; (VIII) The Organization of Thought; (IX) The Anatomy of Some Scientific Ideas; (X) Space, Time, and Relativity. **(310)**

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